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TRANSACTIONS

OF THE

ANTHROPOLOGICAL SOCIETY OF WASHINGTON.

FOR THE FIRST, SECOND, AND THIRD YEARS OF ITS ORGANIZATION.

PUBLISHED WITH THE CO-OPERATION OF THE SMITHSONIAN INSTITUTION.

VOLUME I.

FEBRUARY 10, 1879, TO JANUARY 17, 1882.

WASHINGTON:
PRINTED FOR THE SOCIETY.
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COUNCIL AND OFFICERS

OF THE

ANTHROPOLOGICAL SOCIETY OF WASHINGTON.

ELECTED JANUARY 17, 1882.

COUNCIL.

J. W. POWELL, *President.*

SWAN M. BURNETT.	A. F. A. KING.
EDWARD ALLEN FAY.	GARRICK MALLERY.
ROBERT FLETCHER.	OTIS T. MASON.
G. K. GILBERT.	MILES ROCK.
J. HOWARD GORE.	F. A. SEELY.
H. W. HENSHAW.	LESTER F. WARD.
W. J. HOFFMAN.	J. C. WELLING.

OFFICERS.

PRESIDENT.

J. W. POWELL.

VICE PRESIDENTS.

SECTION A, *Somatology*, ... ROBERT FLETCHER.
SECTION B, *Sociology*, ... J. C. WELLING.
SECTION C, *Philology, Philosophy, and Psychology*, GARRICK MALLERY.
SECTION D, *Technology*, ... OTIS T. MASON.

SECRETARIES.

GENERAL SECRETARY, . . . LESTER F. WARD.
SECRETARY TO THE COUNCIL, . . F. A. SEELY.

TREASURER.

J. HOWARD GORE.

CURATOR.

W. J. HOFFMAN.

PUBLICATION COMMITTEE.

J. W. POWELL, LESTER F. WARD, J. HOWARD GORE.

HISTORICAL NOTICE.

THE preliminary meeting which led to the formation of the ANTHROPOLOGICAL SOCIETY OF WASHINGTON was held in the Regents' Room of the Smithsonian Institution on Monday evening, February 10, 1879, in response to the following call through the public press:

"WASHINGTON, *February* 7, 1879.

"Many persons interested in American Archæology have expressed a desire for an organization in this city to promote study and diffuse knowledge upon the subject. All willing to join an Archæological Association are requested to attend a meeting at the Smithsonian Institution on Monday evening, 10th instant, at 7½ o'clock, for a conference upon the subject, and the formation of such a society.

"J. M. TONER, M. D.,
"OTIS T. MASON, Columbian College,
"GARRICK MALLERY, U. S. Army."

The following gentlemen responded to this call by attending the preliminary meeting:

Dr. A. Wellington Adams, Mr. S. Yorke At Lee, Prof. S. F. Baird, Mr. Otis Bigelow, Mr. George H. Boehmer, Mr. E. A. Burdick, Mr. Frank H. Cushing, Dr. Wills DeHass, Dr. Robert Fletcher, Mr. G. Brown Goode, Mr. John C. Lang, Col. Garrick Mallery, Prof. Otis T. Mason, Dr. James E. Morgan, Mr. P. W. Norris, Lieut. W. W. Reisinger, Dr. Elmer R. Reynolds, Mr. William J. Rhees, Dr. Miles Rock, Mr. Lenox W. Simpson, Dr. J. E. Snodgrass, Dr. J. M. Toner, Mr. Edwin P. Upham, Mr. Lester F. Ward, and Mr. Joseph M. Wilson.

At that meeting the propriety of such an organization was discussed, as well as the question as to the most appropriate name by which it should be known, and a committee consisting of Dr. J. M.

Toner, Prof. Otis T. Mason, Col. Garrick Mallery, and Dr. Wills DeHass, was appointed to draft a constitution.

The meeting adjourned to reassemble in the same room one week later and consider the report of the committee.

A second preliminary meeting was accordingly held on Monday evening, February 17, and the committee reported a constitution which, after discussion and slight modification, was adopted.

The following is the constitution adopted at that meeting:

ORIGINAL CONSTITUTION.

ARTICLE I.—*Name.*

The name of this Society shall be "THE ANTHROPOLOGICAL SOCIETY OF WASHINGTON."

ARTICLE II.—*Object.*

The object of this Society shall be to encourage the study of the Natural History of Man, especially with reference to America, and shall include Archæology, Somatology, Ethnology, and Philology.

ARTICLE III.—*Members.*

The members of this Society shall be persons who are interested in Anthropology, and shall be divided into three classes: Active, Corresponding, and Honorary. The active members shall be those who reside in Washington, or in its vicinity, and who shall pay the dues required by Article XV; corresponding members shall be those who are engaged in anthropological investigations in other localities; honorary members shall be those who have contributed by authorship or patronage to the advancement of Anthropology. Corresponding or honorary members may become active members by paying the fee required by Article XV.

All members shall be elected by ballot, as follows: The name of the candidate shall be recommended to the council, in writing, by two members. If a majority of the Council favor the election, the name shall be presented to the Society, and a vote of a majority of the active members present at a regular meeting shall be necessary to an election.

No person shall be entitled to the privileges of active membership before signing the constitution.

Article IV.—*Officers.*

The officers of this Society shall be a President, four Vice-Presidents, a Corresponding Secretary, a Recording Secretary, a Treasurer, and a Curator, all of whom, together with six other active members, shall constitute a council, all to be elected by ballot at each annual meeting. The officers shall serve one year, or until their successors are elected.

Article V.—*The Council.*

No business shall be transacted by the Society, and no communication received or published in the name of the Society, that has not first been referred to the Council, five members of which shall constitute a quorum.

They shall act on all nominations for membership, shall have direction of the finances, audit the accounts of the Treasurer, Corresponding Secretary, and Curator, and provide a proper programme for regular and special meetings. They shall meet one hour before the regular sessions of the Society, and at such other times as they may be called together by the President. They may call special meetings of the Society.

Article VI.—*The Sections.*

For active operations the Society shall be divided into four sections, as follows: Section A, Archæology; Section B, Somatology; Section C, Ethnology; Section D, Philology. The Vice Presidents of the Society shall be *ex officio* chairmen of these sections respectively, and shall be designated by the President to their sections after their election. It shall be the duty of these sections to keep the Society informed upon the progress of research in their respective fields, to make special investigations when requested by the Council, to announce interesting discoveries, to collect specimens, manuscripts, publications, newspaper clippings, etc., and in every way to foster their divisions of the work.

All papers presented to the sections shall be referred to the Council, and through it to the Society.

ARTICLE VII.—*The President.*

The President, or, in his absence, one of the Vice Presidents, shall preside over the meetings of the Society and of the Council, and shall appoint all committees in the Council and in the Society.

ARTICLE VIII.—*The Vice Presidents.*

The Vice Presidents shall respectively preside over the sections to which they have been designated, and represent such section in the Council and in the Society.

All papers from a section shall be referred to the Council through its vice-president.

ARTICLE IX.—*The Corresponding Secretary.*

It shall be the duty of the Corresponding Secretary to receive and answer all letters of the Society, to give due notice of all meetings, regular and special, to receive all donations to the Society other than money, acknowledge the receipt thereof, and deliver them to the Curator.

ARTICLE X.—*The Recording Secretary.*

The Recording Secretary shall keep the minutes of the regular and special meetings of the Society, and of the Council, shall keep a list of active, corresponding, and honorary members, with their residences, and shall inspect and count all ballots.

ARTICLE XI.—*Duties of the Treasurer.*

The Treasurer shall receive and have charge of all moneys; he shall deposit the funds as directed by the Council, and shall not expend any money except as ordered by the Council. He shall notify members in writing when their dues have remained unpaid for six months.

ARTICLE XII.—*The Curator.*

The Curator shall have charge of all books, pamphlets, photographs, clippings, and other anthropological material not deposited in accordance with Article XVI, in the National Museum, or the Army Medical Museum; he shall keep a record of them in a book provided by the Society; he shall keep a card subject-index of anthropological facts, to which the members are all expected to contribute.

ARTICLE XIII.—*Meetings.*

The regular meetings of the Society shall be held on the first and the third Tuesday of each month from October to June, inclusive. An annual meeting for the election of officers shall be held on the third Tuesday of January in each year, at which only active members who are not in arrears for fees shall be entitled to vote. The business of the Society shall be conducted in accordance with the established rules of parliamentary practice. Papers shall be limited to twenty minutes, after which the subject shall be thrown open for discussion, remarks thereon to be limited to five minutes for each speaker. At the first meeting in February the retiring president shall deliver an address upon the work of the Society during the preceding year. Ten active members present at any meeting shall constitute a quorum.

ARTICLE XIV.—*Visitors.*

Members may invite strangers interested in Anthropology to attend any meeting except the annual election; but a resident of the District of Columbia shall not be invited more than once during a year, except with the consent of the Council.

ARTICLE XV.—*Fees.*

Each member, on joining, shall pay the sum of two dollars, and two dollars for each year thereafter, commencing with the first of January ensuing. The names of members failing to pay their fees one month after written notice from the Treasurer, as provided in Article XI, shall be dropped from the roll.

ARTICLE XVI.—*Donations.*

It shall be the duty of all members to seek to increase and perfect the materials of anthropological study in the national collections at Washington. All donations of specimens, books, pamphlets, maps, photographs, and newspaper clippings, shall be received by the Corresponding Secretary and delivered to the Curator, who shall exhibit them before the Society at the next regular meeting after their reception, and shall make such abstract or entry concerning them, in a book provided by the Society, as will secure their value as materials of research; after which all archæological and ethnological materials shall be deposited in the National

Museum, in the name of the donor and of the Society; all crania and somatic specimens, in the Army Medical Museum; all books, pamphlets, photographs, clippings, and abstracts, in the archives of the Society.

ARTICLE XVII.—*Amendments.*

This constitution shall not be amended except by a three-fourths vote of the active members present at the annual meeting for the election of officers, and after notice of the proposed change shall have been given in writing at a regular meeting of the Society, at least one month previously.

ARTICLE XVIII.—*Order of Business.*

The order of business at each regular meeting shall be:

1. Reading the minutes of the last meeting.
2. Report of the Council upon membership.
3. Report of the Corresponding Secretary.
4. Report of the Curator.
5. Reading of papers and discussions.
6. Notes and queries.

The third meeting was held February 24, 1879, at which the officers of the Society for the ensuing year were elected. The following were the officers chosen:

FIRST OFFICERS.

PRESIDENT	J. W. POWELL.
VICE PRESIDENTS	J. M. TONER. GEORGE A. OTIS. GARRICK MALLERY. WILLS DEHASS.
CORRESPONDING SECRETARY	OTIS T. MASON.
RECORDING SECRETARY	ELMER R. REYNOLDS.
TREASURER	JOHN C. LANG.
CURATOR	FRANK H. CUSHING.
COUNCIL AT LARGE	ALBERT S. GATSCHET. W. W. REISINGER. G. K. GILBERT. CHARLES A. WHITE. THOMAS ANTISELL. J. M. WILSON.

The first Regular Meeting of the Society was held, pursuant to the above constitution, on Tuesday evening, March 4, 1879, and bi-weekly meetings have since taken place regularly, as provided for in Article XIII.

The Regents' Room of the Smithsonian Institution, through the courtesy of Prof. Spencer F. Baird, Secretary of the Institution, was occupied as the place of meeting until January 18, 1881, when the offer of the Faculty of the National Medical College, of the use for this purpose of the lower Lecture Hall of the College was formally considered and accepted, at which place the Society has since met.

During the first three years of the Society, viz., from March 4, 1879, to January 3, 1882, sixty-eight papers were read and three presidential addresses delivered. The number of papers presented in the year 1879–'80, was twenty-seven, the number in the year 1880–'81, was nineteen, and the number in the year 1881–'82, was twenty-two.

Abstracts of most of the papers have been furnished and many of them have been published entire in different ways. The papers read during the first two years were collected together by the President at the end of the second year, and abstracts of them published by him as data for his annual address for that year in compliance with a clause in Article XIII of the Constitution. These abstracts, chronologically arranged, together with the presidential address of the previous year, and that for the second year, with an index, were published by the President under the following title: "Abstract of Transactions of the Anthropological Society of Washington, D. C., with the Annual Address of the President, for the First Year ending January 20, 1880, and for the Second Year ending January 18, 1881. Prepared by J. W. Powell. Washington, 1881."

The whole forms a pamphlet of 150 pages, and constitutes a valuable record of the Society during its first two years. The expenses of this publication were, by a vote of the Society and Council, divided equally between the Society and the President.

The abstracts and addresses published in this work will not be republished in the present volume, but reference will be made in each case to the page on which they occur.

At the annual meeting held January 17, 1882, several amendments to the Constitution, proposed by a committee appointed for the purpose, were considered by the Society and adopted. The following is the present Constitution as amended at that meeting :

AMENDED CONSTITUTION.

ARTICLE I.—*Name.*

The name of this Society shall be "THE ANTHROPOLOGICAL SOCIETY OF WASHINGTON."

ARTICLE II.—*Object.*

The object of this Society shall be to encourage the study of the Natural History of Man, especially with reference to America, and shall include Somatology, Sociology, Philology, Philosophy, Psychology, and Technology.

ARTICLE III.—*Members.*

The members of this Society shall be persons who are interested in Anthropology, and shall be divided into three classes: Active, Corresponding, and Honorary. The active members shall be those who reside in Washington, or in its vicinity, and who shall pay the dues required by Article XV. Failure to comply with this provision within two months after notice of election, unless satisfactorily explained to the Council, shall render the election void. Corresponding members shall be those who are engaged in anthropological investigations in other localities; honorary members shall be those who have contributed by authorship or patronage to the advancement of Anthropology. Corresponding or honorary members may become active members by paying the fee required by Article XV.

All members shall be elected by the Council and by ballot, as follows: The name of the candidate shall be recommended to the Council, in writing, by two members of the Society, and eight affirmative ballots shall be necessary to an election.

No person shall be entitled to the privileges of active membership before paying the admission fee provided in Article XV.

ARTICLE IV.—*Officers.*

The officers of this Society shall be a President, four Vice Presidents, a General Secretary, a Secretary to the Council, a Treasurer, and a Curator, all of whom, together with six other active members, shall constitute a Council, all to be elected by ballot at each annual

meeting. The officers shall serve one year, or until their successors are elected.

ARTICLE V.—*The Council.*

All business of the Society, except the election of officers at the annual meeting, shall be transacted by the Council, five members of which shall constitute a quorum.

The Council shall meet one half-hour before the regular sessions of the Society, and at such other times as they may be called together by the President. They may call special meetings of the Society.

ARTICLE VI.—*The Sections.*

For active operations the Society shall be divided into four sections, as follows: Section A, Somatology; Section B, Sociology; Section C, Philology, Philosophy, and Psychology; Section D, Technology. The Vice-Presidents of the Society shall be *ex officio* chairmen of these sections respectively, and shall be designated by the President to their sections after their election. It shall be the duty of these sections to keep the Society informed upon the progress of research in their respective fields, to make special investigations when requested by the Council, to announce interesting discoveries, to collect specimens, manuscripts, publications, newspaper clippings, etc., and in every way to foster their divisions of the work.

All papers presented to the sections shall be referred to the Council, and through it to the Society.

ARTICLE VII.—*The President.*

The President, or, in his absence, one of the Vice-Presidents, shall preside over the meetings of the Society and of the Council, and shall appoint all committees in the Council and in the Society. At the first meeting in February the retiring President shall deliver an address to the Society.

ARTICLE VIII.—*The Vice-Presidents.*

The Vice-Presidents shall respectively preside over the sections to which they have been designated, and represent such sections in the Council and in the Society.

Each of the Vice-Presidents shall deliver an address during the year upon such subject within his department as he may select.

ARTICLE IX.—*The General Secretary.*

It shall be the duty of the General Secretary to record the transactions and conduct the general correspondence of the Society.

ARTICLE X.—*The Secretary to the Council.*

The Secretary to the Council shall keep the minutes of the Council, shall keep a list of active, corresponding, and honorary members, with their residences, shall notify members of the time and place of all meetings of the Society, and shall perform such other duties as the Council may direct.

ARTICLE XI.—*The Treasurer.*

The Treasurer shall receive and have charge of all moneys; he shall deposit the funds as directed by the Council, and shall not expend any money except as ordered by the Council. He shall notify members in writing when their dues have remained unpaid for six months.

ARTICLE XII.—*The Curator.*

The Curator shall receive, acknowledge, and have charge of all books, pamphlets, photographs, clippings, and other anthropological material, and shall dispose of them in accordance with Article XVI, keeping a record of them in a book provided by the Society.

ARTICLE XIII.—*Meetings.*

The regular meetings of the Society shall be held on the first and the third Tuesday of each month from November to May, inclusive. An annual meeting for the election of officers shall be held on the third Tuesday of January in each year, a quorum to consist of twenty active members who are not in arrears for dues; and visitors shall not be admitted. The proceedings of the Society shall be conducted in accordance with the established rules of parliamentary practice. Papers read shall be limited to twenty minutes, after which the subject shall be thrown open for discussion, remarks thereon to be limited to five minutes for each speaker.

ARTICLE XIV.—*Publications.*

The address of the President, provided in Article VII, and the transactions of the Society, shall be printed and published annually, or at such periods and in such form as may be determined by the Council.

ARTICLE XV.—*Fees and Dues.*

The admission fee to be paid by members elect shall be five dollars, and the annual dues, to be paid on the first of January, shall be three dollars. The names of members failing to pay their dues one month after written notice from the Treasurer, as provided in Article XI, shall be dropped from the roll, unless from absence of the member from Washington or other satisfactory explanation, the Council shall otherwise determine.

ARTICLE XVI.—*Gifts.*

It shall be the duty of all members to seek to increase and perfect the materials of anthropological study in the national collections at Washington. All gifts of specimens, books, pamphlets, maps, photographs, and newspaper clippings, shall be received by the Curator, who shall exhibit them before the Society at the next regular meeting after their reception, and shall make such abstract or entry concerning them in a book provided by the Society, as will secure their value as materials of research; after which all archæological and ethnological materials shall be deposited in the National Museum, in the name of the donor and of the Society; all crania and somatic specimens, in the Army Medical Museum; all books, pamphlets, photographs, clippings, and abstracts, in the archives of the Society.

ARTICLE XVII.—*Amendments.*

This constitution shall not be amended except by a three-fourths vote of the active members present at the annual meeting for the election of officers, and after notice of the proposed change shall have been given in writing at a regular meeting of the Society, at least one month previously.

ARTICLE XVIII.—*Order of Business.*

The order of business at each regular meeting shall be:

1. Reading the minutes of the last meeting.
2. Report of the Council upon membership.
3. Report of the Curator.
4. Reading of papers and discussions.
5. Notes and queries.

LIST OF MEMBERS

OF THE

ANTHROPOLOGICAL SOCIETY OF WASHINGTON.

Corrected to September 18, 1882.

The following list aims simply to facilitate correspondence with the members of the Society. It therefore only gives the post-office address of each member, and the particular form and style in which he prefers to be addressed. So few members known to have university degrees having expressed a desire to have them printed in the list of members, and some having objected to this being done, it was thought best to omit them in all cases. Washington, D. C., is understood unless otherwise specified.

ACTIVE MEMBERS.

Dr. THOMAS ANTISELL, 1311 Q street N. W.
Dr. A. T. AUGUSTA, 1319 L street N. W.
Dr. FRANK BAKER, 366 C street N. W.
Mr. HENRY M. BAKER, 1411 F street N. W.
Dr. EMIL BESSELS, 1441 Massachusetts Avenue N. W.
Mr. OTIS BIGELOW, 605 Seventh street N. W.
Dr. J. F. BRANSFORD, U. S. Navy.
Mr. J. STANLEY BROWN, 1318 Massachusetts Avenue N. W.
Hon. HORATIO C. BURCHARD, U. S. Treasury Department.
Mr. EDSON A. BURDICK, U. S. Pension Office.
Dr. SWAN M. BURNETT, 1215 I street N. W.
Prof. J. W. CHICKERING, Jr., National Deaf-Mute College.
Mr. FRANK H. CUSHING, Zuñi, New Mexico.
Rev. J. OWEN DORSEY, Bureau of Ethnology, Box 585.
Mr. CHAS. L. DUBOIS, 605 Seventh street N. W.

Capt. C. E. Dutton, U. S. A., Geological Survey, Box 591.
Mr. Theo. F. Dwight, Department of State.
Prof. Edward Allen Fay, National Deaf-Mute College.
Dr. Robert Fletcher, 1326 L street N. W.
Mr. Weston Flint, Librarian U. S. Patent Office.
Prof. E. T. Fristoe, Columbian University.
Dr. E. M. Gallaudet, President National Deaf-Mute College.
Mr. Henry Gannett, 1881 Harewood Avenue, LeDroit Park.
Mr. Albert S. Gatschet, Bureau of Ethnology, Box 591.
Mr. C. D. Gedney, U. S. Coast Survey Office.
Mr. G. K. Gilbert, U. S. Geological Survey, Box 591.
Mr. H. P. Godwin, "Star" Office.
Mr. G. Brown Goode, Smithsonian Institution.
Prof. J. Howard Gore, 1305 Q street N. W.
Dr. Chas. E. Hagner, 1400 H street N. W.
Dr. Wm. H. Hawkes, U. S. A., Army Dispensary, 1733 G street N. W.
Mr. H. W. Henshaw, Bureau of Ethnology, Box 591.
Mr. S. D. Hinman, Bureau of Ethnology, Box 591.
Dr. W. J. Hoffman, Bureau of Ethnology, Box 591.
Mr. Wm. H. Holmes, 18 Vernon Row.
Dr. Franklin B. Hough, Chief Forestry Div., Dept. of Agriculture.
Mr. M. B. W. Hough, 312 Indiana Avenue N. W.
Dr. D. L. Huntington, U. S. A., Army Medical Museum.
Mr. David Hutcheson, Library of Congress.
Mr. Ernest Ingersoll, New York City.
Mr. John Irwin, Jr., U. S. Geological Survey, Box 585.
Dr. Jos. Taber Johnson, 937 New York Avenue N. W.
Mr. George Kennan, Lock box 23.
Dr. A. F. A. King, 726 Thirteenth street N. W.
Dr. William Lee, 2111 Pennsylvania Avenue.
Mr. Daniel Leech, Smithsonian Institution.
Mr. Joseph Libbey, 3043 West street, Georgetown.
Capt. E. P. Lull, U. S. N., Navy Department.
Judge Arthur MacArthur, 1201 N street N. W.
Rev. Clay MacCauley, 43 Linwood street, Roxbury, Massachusetts.
Mr. Henry B. F. Macfarland, 1727 F street N. W.
Col. Garrick Mallery, U. S. A., Bureau of Ethnology, Box 591.
Prof. Otis T. Mason, 1305 Q street N. W.
Mr. J. D. McGuire, Ellicott City, Maryland.

Prof. A. P. MONTAGUE, Columbian University.
Dr. JAMES E. MORGAN, 905 E street N. W.
Dr. P. J. MURPHY, Columbia Hospital.
Mr. E. W. NELSON, Colorado Springs, Col.
Mr. J. A. NORRIS, 1236 Thirteenth street N. W.
Mr. P. W. NORRIS, Bureau of Ethnology, Box 585.
Mr. IVAN PETROFF, U. S. Census Office.
Mr. J. C. PILLING, Bureau of Ethnology, Box 585.
Prof. SAMUEL PORTER, National Deaf-Mute College.
Major J. W. POWELL, Box 585.
Dr. D. WEBSTER PRENTISS, 1224 Ninth street N. W.
Mr. S. V. PROUDFIT, U. S. Pension Office.
Lieut. W. W. REISINGER, U. S. N., 1209 Thirteenth street N. W.
Dr. ELMER R. REYNOLDS, U. S. Pension Office.
Mr. WM. J. RHEES, Smithsonian Institution.
Prof. C. V. RILEY, 1700 Thirteenth street N. W.
Mr. LOUIS W. RITCHIE, 3259 N street N. W., (Georgetown.)
Dr. MILES ROCK, 1430 Chapin street.
Mr. C. C. ROYCE, 607 I street N. W.
Mr. NEWTON P. SCUDDER, Smithsonian Institution.
Col. F. A. SEELY, U. S. Patent Office.
Dr. R. W. SHUFELDT, U. S. A., care Surgeon General.
Mr. C. W. SMILEY, Smithsonian Institution.
Mr. JOHN D. SMITH, U. S. Pension Office.
Dr. Z. T. SOWERS, 1324 New York Avenue.
Gen. ELLIS SPEAR, Lock box 1.
Dr. J. O. STANTON, 1344 G street N. W.
Mr. JAMES STEVENSON, Box 585.
Mr. BENJAMIN SWALLOW, Washington, D. C.
Prof. CYRUS THOMAS, 1246 Eleventh street N. W.
Mr. HENRY L. THOMAS, Department of State.
Dr. J. FORD THOMPSON, 1000 Ninth street N. W.
Dr. J. M. TONER, 615 Louisiana Avenue.
Mr. FREDERICK W. TRUE, Smithsonian Institution.
Mr. E. P. VINING, Gen. Freight Dept., U. P. R. R., Omaha, Neb.
Mr. LESTER F. WARD, U. S. Geological Survey, Box 585.
Dr. JAMES C. WELLING, President Columbian University.
Dr. H. C. YARROW, 814 Seventeenth street N. W.

CORRESPONDING MEMBERS.

Mr. A. F. Berlin, Allentown, Pa.
Mr. Drake Carter, Versailles, Ky.
Mr. G. C. Comfort, Syracuse, N. Y.
Mr. Frank Cowen, Greensburg, Pa.
Dr. R. J. Farquharson, Des Moines, Iowa.
Major A. M. Hancock, Churchville, Md.
Rev. Horace Edwin Hayden, Wilkes Barre, Pa.
Dr. P. R. Hoy, Racine, Wis.
Hon. J. Warren Keifer, Springfield, Ohio.
Dr. Oscar Loew, Botanical Institute, Karl Strasse 29, Munich, Germany.
Dr. John G. Morris, Baltimore, Md.
Mr. B. B. Redding, 2100 California street, San Francisco, Cal.
Mr. J. H. Rivett-Carnac, Allahabad, India.
Rev. Edmund F. Slafter, Boston, Mass.
Mr. W. C. Whitford, Milton, Wis.
Prof. Alexander Winchell, Ann Arbor, Mich.

HONORARY MEMBERS.

Prof. Spencer F. Baird, Secretary Smithsonian Institution.
Dr. Washington Matthews, U. S. A., Fort Wingate, New Mexico.

TRANSACTIONS.

FIRST REGULAR MEETING, March 4, 1879.

Mr. Frank H. Cushing read a paper entitled RELIC HUNTING.[1]

Mr. P. W. Norris read a paper entitled SOME MODES OF INDIAN BURIAL.[2]

SECOND REGULAR MEETING, March 18, 1879.

Mr. G. K. Gilbert read a paper entitled SOME INDIAN PICTOGRAPHS.[2]

Prof. Otis T. Mason made some OBSERVATIONS ON AZTEC AND GUATEMALAN ANTIQUITIES.[3]

THIRD REGULAR MEETING, April 1, 1879.

Mr. Frank H. Cushing read a paper entitled ARROW-HEAD MAKING.[4]

Mr. G. K. Gilbert concluded his paper on INDIAN PICTOGRAPHS.[2]

FOURTH REGULAR MEETING, April 16, 1879.

Dr. Swan M. Burnett read a paper entitled COLOR-BLINDNESS AS AFFECTED BY RACE.[5]

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[1] "Abstract of Transactions of the Anthropological Society of Washington, D. C., with the Annual Address of the President, for the First Year ending January 20, 1880, and for the Second Year ending January 18, 1881. Prepared by J. W. Powell." Washington, 1881. P. 3.

[2] *Loc. cit.*, p. 4. [3] *Loc. cit.*, p. 6. [4] *Loc. cit.*, p. 7.

[5] *Loc. cit.* p. 7: Cf. "Color-Blindness" in "National Medical Review," April, 1879, vol. I, pp. 191–198; also "Results of an examination of the Color-Sense of 3,040 children in the public schools of the District of Columbia," in "Archives of Ophthalmology," New York, vol. VIII, pp. 191–199; also reprint. Translated into the "Archiv für Augenheilkunde" Bd. IX, S. 146–148, and Separat-Abdruck.

Fifth Regular Meeting, May 5, 1879.

Mr. Wills De Hass read a paper entitled Progress of Archæologic Research in the United States.[1]

Prof. J. Howard Gore read a paper entitled The Old Roman Senate; a Study of Deliberative Assemblies.[1]

Mr. Albert S. Gatschet read a paper entitled Indian Color Names.[2]

Sixth Regular Meeting, May 20, 1879.

Dr. Miles Rock read a paper entitled Indian Pictographs in New Mexico.[3]

Dr. Elmer R. Reynolds read a paper describing an Aboriginal Paint Quarry.[4]

The Secretary read a paper by Mr. Victor Harvard entitled French and Indian Half-Breeds of the Northwest.[5]

Seventh Regular Meeting, June 3, 1879.

Col. Garrick Mallery read a paper entitled Comparative Mythology of the Two Indies.[5]

Dr. Elmer R. Reynolds read a paper entitled Aboriginal Cemeteries near Piscataway, Md.[6]

Eighth Regular Meeting, June 17, 1879.

Prof. Theodore Gill, by invitation, read a paper On the Zoölogical Relations of Man.[7]

Ninth Regular Meeting, October 7, 1879.

Col. Garrick Mallery gave an account of the proceedings of the Anthropological Section of the American Association for the Advancement of Science at its meeting held at Saratoga, New York.

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[1] *Loc. cit.*, p. 9.

[2] *Loc. cit.*, p. 10; Also: "Adjectives of Color in Indian Languages," in "American Naturalist," vol. XIII, pp. 475–485.

[3] *Loc. cit.*, p. 10. [4] *Loc. cit.*, p. 11. [5] *Loc. cit.*, p. 12.

[6] *Loc. cit.*, p. 14. [7] *Loc. cit.*, p. 15.

Prof. Otis T. Mason made some remarks upon the preservation of ancient monuments.[1]

TENTH REGULAR MEETING, October 21, 1879.

Col. Garrick Mallery read a paper entitled THE SIGN LANGUAGE OF THE NORTH AMERICAN INDIANS.[2]

ELEVENTH REGULAR MEETING, November 4, 1879.

Dr. W. J. Hoffman read a paper entitled POISONED WEAPONS OF NORTH AND SOUTH AMERICA.[3]

Mr. G. Brown Goode read a paper entitled THE USE OF AGRICULTURAL FERTILIZERS BY THE AMERICAN INDIANS AND THE EARLY ENGLISH COLONISTS.[4]

TWELFTH REGULAR MEETING, November 18, 1879.

Prof. Otis T. Mason read a paper entitled A COMPARISON OF A WRITTEN LANGUAGE WITH ONE THAT IS SPOKEN ONLY.[5]

Dr. Elmer R. Reynolds read a paper ON THE ABORIGINAL SHELL-HEAPS AT POPE'S CREEK, MARYLAND.[6]

THIRTEENTH REGULAR MEETING, December 2, 1879.

Mr. John C. Lang read a paper entitled ANCIENT MAPS OF NORTH AMERICA.[7]

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[1] *Loc. cit.*, p. 17.

[2] *Loc. cit.*, p. 19: Cf. "The Gesture Speech of Man," address by Col. Garrick Mallery, Chairman of Subsection of Anthropology of the A. A. A. S.; "Proceedings," vol. XXX, pp. 283–313; also "Sign Language among North American Indians compared with that among other Peoples and Deaf-Mutes," in "Annual Report of the Bureau of Ethnology," 1879–'80, pp. 269–552.

[3] *Loc. cit.*, p. 21.

[4] "American Naturalist," vol. XIV, pp. 473–479.

[5] "Abstract of Transactions, &c.," p. 21; also "Bulletin Philosophical Society of Washington," vol. III, pp. 139–140.

[6] *Loc. cit.*, p. 23.

[7] *Loc. cit.*, p. 25.

Dr. Miles Rock read a paper ON THE EFFACING POWER OF TROPICAL FOREST GROWTH IN TRINIDAD ISLAND.[1]

Capt. Edward P. Lull, U. S. N., read a paper ON THE DETERMINATION OF THE AGE OF PREHISTORIC REMAINS.[2]

Prof. C. V. Riley read a letter from a correspondent, Mr. H. P. Bee, in San Antonio, Texas, relating to the discovery of a remarkable cave in a mountain standing in the valley of the Rio Nazas, State of Durango, Mexico.[3]

FOURTEENTH REGULAR MEETING, December 16, 1879.

President Powell related the folk-story of the "Tar Baby" and the Indian story of the "Three Cranberries."[4]

Dr. Elmer R. Reynolds read a paper entitled TURTLE-BACK CELTS AND THEIR USES.[4]

FIFTEENTH REGULAR MEETING, January 6, 1880.

Mr. J. D. McGuire read a paper entitled SHELL-HEAPS OF SOUTH RIVER, MARYLAND.[5]

SIXTEENTH REGULAR AND SECOND ANNUAL MEETING, January 20, 1880.

The annual election of officers took place, with the following result:

PRESIDENT	J. W. POWELL.
VICE-PRESIDENTS	J. M. TONER. GEORGE A. OTIS. GARRICK MALLERY. WILLS DEHASS.
CORRESPONDING SECRETARY	OTIS T. MASON.
RECORDING SECRETARY	ELMER R. REYNOLDS.
TREASURER	JOHN C. LANG.
CURATOR	FRANK H. CUSHING.
COUNCIL AT LARGE	E. M. GALLAUDET. H. C. YARROW. C. A. WHITE. G. K. GILBERT. J. M. WILSON. ELLIOTT COUES.

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[1] *Loc. cit.*, p. 26.

[2] *Loc. cit.*, p. 27.

[3] *Loc. cit.*, p. 29; cf. "Bull. No. 3, U. S. Entomological Commission," p. 132.

[4] *Loc. cit.*, p. 30.

[5] *Loc. cit.*, p. 31.

Commander W. Bainbridge Hoff, U. S. N., read a paper entitled A Strange Chart.[1]

Seventeenth Regular Meeting, February 3, 1880.

Dr. Wills DeHass read a paper entitled The Mound-Builders: An Inquiry into their assumed Southern Origin.[2]

Eighteenth Regular Meeting, February 17, 1880.

Dr. H. C. Yarrow read a paper entitled Burial Customs of the North American Indians.[3]

Prof. J. Howard Gore read a paper entitled The Development of Deliberative Government among the North American Indians.[4]

Nineteenth Regular Meeting, March 2, 1880.

The President, Major J. W. Powell, delivered his Annual Address, the subject being The Evolution of Language, as exhibited in the Specialization of the Grammatic Processes, the Differentiation of the Parts of Speech, and the Integration of the Sentence; from a Study of Indian Languages.[5]

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[1] *Loc. cit.*, p. 33; also in "The Evening Star," Washington, D. C., Jan. 24, 1880, p. 2.

[2] *Loc. cit.*, p. 55.

[3] "Introduction to the Study of Mortuary Customs among the North American Indians, by Dr. H. C. Yarrow, Act. Asst. Surg. U. S. A., published by the Bureau of Ethnology, Washington, 1880. Cf. "A Further Contribution to the Study of the Mortuary Customs of the North American Indians," by the same author, in "Annual Report of the Bureau of Ethnology," 1879–'80, pp. 87–203.

[4] *Loc. cit.*, p. 58.

[5] *Loc. cit.*, p. 35. Cf. "Introduction to the Study of Indian Languages," 2d edition, Washington, 1880, by J. W. Powell, Director of the Bureau of Ethnology, Chapter II; also "Annual Report of the Bureau of Ethnology," 1879–'80, pp. 1–16.

TWENTIETH REGULAR MEETING, March 16, 1880.

Mr. Albert S. Gatschet read a paper entitled THE FOUR CREATIONS OF MANKIND—A TUALATI MYTH.[1]

TWENTY-FIRST REGULAR MEETING, April 6, 1880.

Mr. C. C. Royce read a paper on THE INDIAN TITLE—THE METHOD AND CHRONOLOGY OF ITS EXTINGUISHMENT BY THE UNITED STATES.[2]

TWENTY-SECOND REGULAR MEETING, April 20, 1880.

Mr. Lester F. Ward read a paper entitled PRE-SOCIAL MAN.[3]

TWENTY-THIRD REGULAR MEETING, May 4, 1880.

Mr. A. L. Guss read a paper entitled WHO WERE THE MASSAWOMEKES?[4]

TWENTY-FOURTH REGULAR MEETING May 18, 1880.

Dr. Elmer R. Reynolds read a paper on THE DUNBARTON ABORIGINAL SOAPSTONE QUARRY.[5]

Prof. E. A. Fay read a paper entitled THE TESTIMONY OF THE ROMANCE LANGUAGES CONCERNING THE FORMS OF THE IMPERFECT AND PLUPERFECT SUBJUNCTIVE IN THE ROMAN FOLK-SPEECH.[6]

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[1] *Loc. cit.*, p. 60.

[2] *Loc. cit.*, p. 64: also "Cessions of Land by Indian Tribes to the United States: illustrated by those in the State of Indiana," by C. C. Royce, in "Annual Report of the Bureau of Ethnology," 1879–'80, pp. 247-262, with map.

[3] *Loc. cit., p.* 68. This paper is condensed from Chapter VI (vol I, pp. 424–446), of the author's forthcoming work, "Dynamic Sociology, &c.," in press, D. Appleton & Co., New York.

[4] *Loc. cit.*, p. 71.

[5] "Twelfth annual Report of the Peabody Museum of Archæology and Ethnology," Cambridge, 1879, pp. 526–535; also reprint.

[6] "Abstract of Transactions," &c., p. 72: also in full in "The American Journal of Philology," vol. I, pp. 410–415.

TWENTY-FIFTH REGULAR MEETING, June 1, 1880.

Prof. Samuel Porter read a paper entitled IS THOUGHT POSSIBLE WITHOUT LANGUAGE?—CASE OF A DEAF-MUTE.[1]

TWENTY-SIXTH REGULAR MEETING, June 15, 1880.

Major J. W. Powell, President of the Society, read a paper entitled WYANDOT GOVERNMENT—A SHORT STUDY OF TRIBAL SOCIETY.[2]

TWENTY-SEVENTH REGULAR MEETING, October 5, 1880.

Col. Garrick Mallery read a paper entitled SCHEME OF THE TENTH CENSUS FOR THE ENUMERATION OF UNTAXED INDIANS.[3]

Dr. Elmer R. Reynolds gave an account of an OSSUARY AT ACCOTINK, VIRGINIA.[3]

TWENTY-EIGHTH REGULAR MEETING, October 19, 1880.

Mr. C. C. Royce read a paper entitled AN INQUIRY INTO THE HISTORY AND IDENTITY OF THE SHAWNEE INDIANS.[4]

Mr. M. B. W. Hough read a paper entitled CIVILIZATION.[5]

No quorum was present on November 2, 1880, and therefore no meeting was held.

TWENTY-NINTH REGULAR MEETING, November 16, 1880.

Prof. J. Howard Gore read a paper entitled TUCKAHOE OR INDIAN BREAD.[6]

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[1] *Loc. cit.*, p. 74; also in full in "Princeton Review," Jan. 1881, pp. 104–128.

[2] *Loc. cit.*, p. 76; also in "Annual Report of the Bureau of Ethnology," 1879–'80, pp. 57–69.

[3] *Loc. cit.*, p. 92. [4] *Loc. cit.*, p. 94. [5] *Loc. cit.*, p. 100.

[6] *Loc. cit.*, p. 101. To be published in full in the "Smithsonian Report" for 1881.

Dr. Elmer R. Reynolds read a paper entitled INDIAN MOUNDS IN THE SHENANDOAH VALLEY.[1]

THIRTIETH REGULAR MEETING, December 7, 1880.

Mr. Albert S. Gatschet read a paper entitled SUPERSTITIONS.[1]

THIRTY-FIRST REGULAR MEETING, December 21, 1880.

Mr. Lester F. Ward read a paper entitled SAVAGE AND CIVILIZED ORTHOËPY.[2]

No quorum was present on January 4, 1881, and the meeting was postponed.

THIRTY-SECOND REGULAR AND THIRD ANNUAL MEETING, January 18, 1881.

The annual election of officers was held. The following officers were elected:

PRESIDENT	J. W. POWELL.
VICE PRESIDENTS	GARRICK MALLERY. OTIS T. MASON. H. C. YARROW. GEORGE A. OTIS.
CORRESPONDING SECRETARY	C. C. ROYCE.
RECORDING SECRETARY	LESTER F. WARD.
TREASURER	J. HOWARD GORE.
CURATOR	W. J. HOFFMAN.
COUNCIL	J. C. WELLING. F. A. SEELY. MILES ROCK. H. L. THOMAS. J. M. TONER. EDWARD ALLEN FAY.

[1] *Loc. cit.*, p. 103.

[2] *Loc. cit.*, p. 106.

THIRTY-THIRD REGULAR MEETING, February 1, 1881.

The President, Major J. W. Powell, delivered his annual address ON LIMITATIONS TO THE USE OF SOME ANTHROPOLOGIC DATA.[1]

THIRTY-FOURTH REGULAR MEETING, February 15, 1881.

Mr. Henry L. Thomas read a paper ON SOME PECULIARITIES IN THE USE OF MOODS IN THE PRINCIPAL NEO-LATIN LANGUAGES. The following is an abstract:

The object of the paper was to illustrate various points of comparison existing in the use of the moods in the principal Neo-Latin languages. Mr. Thomas referred, in the first place, to the meagre degree of attention which has been given to the subject of the accurate use of the moods by the Italian grammarians, and the devotion with which almost all of them continue to regard the usage of Boccaccio and the writers of that period. He next called attention to the service rendered to the Italian language of the present day by Giuseppe Rigutini, a citizen of Florence, who has done much for the promotion of stylistic purity by the publication of his Vocabulary of the Spoken Language, a work which marks an epoch in Italian lexicography, inasmuch as the author, boldly striking out into a new path, has had the courage to disregard the usage of Petrarch and Boccaccio, and to accord a scientific treatment to the language of to-day.

Many examples were adduced with a view to presenting a kind of parallel view of the use of the moods (principally the subjunctive) in French, Italian, Spanish, and Portuguese. A few examples of the use of the French subjunctive, as exhibited in writings a little more than two hundred years old, were given to show that this mood was then used (or that its use was at least allowable) in connection with verbs of thinking and believing, in affirmative sentences, and the fact was adverted to that that practice no longer

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[1] *Loc. cit.*, pp. 113–136; also in "Annual Report of the Bureau of Ethnology," 1879–'80, pp. 71–86.

prevails in any of the languages under consideration, with the exception of Italian.

Reference was incidentally made to deviations by classic writers and reputable modern Latinists from the rule that "dependent clauses, containing an indirect question, take the subjunctive." It was shown that, while such deviations were frequent in Plautus and Terence, they were of by no means rare occurrence in the writings of many Latin poets, of Seneca, and even of Cicero, although, in the instances in which the last-named writer deviates from this rule, modern editors have made him conform to it.

Attention was called, in conclusion, to certain points connected with the use of the tenses of the Portuguese subjunctive, in reference to which modern grammarians continue to advocate a usage which is really, at the present day, practically obsolete.

The paper was discussed by Prof. Fay, Dr. Antisell, Dr. Welling, Mr. Ward, and Prof. Mason.

Prof. Fay expressed his gratification at listening to so learned a production, and regarded it as confirmatory of the views he had previously presented to the Society.[1]

He regretted that it was not possible to systematize the data in more exact chronological order.

Dr. Antisell remarked upon the tendency of languages to dispense more and more with the subjunctive mood as to a great extent a useless appendage.

Dr. Welling also noted the progress made in sloughing off redundant forms, and thought it quite possible that this process might go too far. He said that there was a very perceptible difference in the meaning conveyed by the English subjunctive and indicative, which it would be a pity to lose the power of expressing.

Mr. Ward was interested in the cases adduced in Latin of the dependent interrogative with the indicative, which appears to be chiefly used in colloquialisms, showing that the common people were disposed to eliminate unnecessary grammatical formalities.

[1] See p. 26, *supra*.

He also alluded to the complicated character of savage and barbaric languages, and regarded this tendency towards simplification as constituting a true progress towards practical economy in speech.

Dr. Elmer R. Reynolds read a paper giving a description of an ABORIGINAL BURIAL-CAVE IN THE VALLEY OF THE SOUTH SHENANDOAH.

The cave in question is situated in Limestone Hill, an eastern spur of the Massannutton Mountain, nine miles northwest of Luray, Va. The hill lies on the southern bank of the river, from which it is separated by a narrow valley a few hundred yards wide. An old village lies about a fourth of a mile west of the cave, and nearer by is, or rather was, an extensive cemetery. The entrance to the cave itself is situated about forty feet above the valley, on a steep and thickly wooded hillside. The opening is oblong, six feet east and west by two feet north and south. The descent is vertical for six feet, and from thence slopes very steeply down in a southwesterly direction. This room, or passage, is about twenty-five feet long by twelve or fifteen feet high; the floor is covered with large boulders and slabs of limestone intermixed with human bones and *débris* washed down from the hillside above the opening.

Leading from this chamber is a passage seventeen feet in length by fourteen inches in height and twelve inches in width. This passage, or gallery, ends in a room ten feet long, eight feet high, and from four to six feet wide. Beyond this chamber and approached through a narrow opening is a third chamber from four to six feet high, six feet long, and four feet wide, the length being transverse to the others. Another passage leads from this by two openings, one extending in a westerly direction on a line with the floor and the second situated about four feet above and partially closed by depending stalactites. This superior passage slopes downward, and joins the lower opening about three feet from the floor. The smaller of these stalactites was broken away, and an ineffectual effort made to force a passage beyond. The largest stalactite at this opening was from seven inches to a foot in diameter and about three feet long.

The floors in all the chambers and passages were composed of travertine with a soft tufaceous deposit above. The floors average from three-fourths of an inch to two or three inches in thickness, and, under ordinary circumstances, would require a considerable period of time in their formation.

Upon breaking through these floors with a pick-axe—which was not accomplished without some difficulty owing to the hardness of the material—a solid compact mass of ashes, coal, and sand, and a profusion of human bones were found. Only a few animal bones were found; among these were the bones of the squirrel and turtle. Several very finely preserved crania were also found firmly attached to the side of the third chamber below the floor. Only one of these was dislodged without injury, the others being thickly covered with tufa.

Two or three shafts were sunk down to a depth of about three feet. Human bones and ashes were found at all depths.

Both chambers (Nos. 3 and 4, not including the entrance, or long passage) were alike in character below the floor.

Notwithstanding the presence of charcoal and ashes, none of the bones showed any traces of cremation. The speaker felt confident, however, that upon cleaning out this cavern to a depth of ten feet, he would find abundant proof that this system of burial had been practiced at this place, although the process may have been, and probably was, carried on outside of the cave previous to final sepulture. He based this hypothesis upon the fact of finding unquestionable evidences of cremation in both primary and secondary burial mounds and ossuaries in the same valley.

This cave was examined with the assistance of Mr. Benton P. Stebbins, of Luray; Dr. Logan, of Cedar Point; Mr. Joseph Keyser, on whose estate the cave is situated, and also by Messrs. William Oothout and Joseph Williamson, both of whom are attached to the Bellevue Hospital Medical College of New York City. These gentlemen came on from the east expressly to assist the speaker in his aboriginal research in the Shenandoah Valley.

To Messrs. Oothout and Williamson the speaker was deeply indebted for sketches, diagrams, and measurements of the mounds and other aboriginal remains subsequently explored by the party.

With reference to the age of the burial cave, as a place of sepulture, the explorer cautiously reserved his opinion until he should again visit the locality and complete his research by removing all the *débris* in the bottom to a depth of two or three yards. The present floor, he thought, is now near the former roof of the cave.

Some of the stalagmites on the floor of the second chamber were four inches in diameter at the base and nearly a foot high; yet this feature could not safely be taken as an indication of the time since the cave had ceased to be used for burial purposes, as the free humidity of the overlying soil—or an absence of the same condition—would have a direct tendency very greatly to accelerate or retard the formation of both travertine and stalagmites.

THIRTY-FIFTH REGULAR MEETING, March 1, 1881.

Mr. Ivan Petroff read a paper entitled AMPHIBIOUS ABORIGINES OF ALASKA.

He described a peculiar tribe of Innuits who inhabit the lower Kuskoquim and the coast from Cape Newenham nearly to Bristol Bay, in Alaska, and who spend at least half of their time on or in the water. Their houses are built close to the sea-shore, and they spend a large part of their time in their skin-boats or "kiaks." The children go nearly naked, and are as much at home in their kiaks as on land. The people live chiefly on fish and seals, which they spear with great skill. They keep their weapons and boats scrupulously clean, this being essential to success in hunting, but pay no attention to the cleansing of their own bodies which are allowed to become extremely filthy. They eat their food for the most part uncooked. Storms and tides often inundate the swampy shore on which their partly subterranean dwellings are built, and

filling them with water, drive the inmates out to take refuge on the roof, where whole families are often huddled together for hours or even days. In making long journeys to remote fishing-grounds the father takes the young children in the kiak and the women follow the low swampy shore on foot, often wading waist deep across estuaries or through marshes. If a storm rages in the night the kiak is turned on its side and the family sleep with their heads alone protected under it and the remainder of their bodies stretched out upon the ground.

The private dwellings are dark so that that they cannot work in them, but they construct large council-houses, or kashimas, lighted by a spacious opening in the roof, and where they assemble and make their weapons and canoes, and work at curious carvings in ivory. Here also the young men gather to listen to the adventures of their elders, and be trained in the pursuits of life. They purposely inure themselves to hardships, such as sitting upright for entire nights to fit them for long watches in their kiaks at sea, and in this process of education the old men are very severe taskmasters. The young man is emancipated from all family connection as soon as he is able to build himself a kiak. He then ceases to be a permanent resident of his village, and roams about as fancy dictates. On the banks of the Togiak the writer had found whole communities, men, women, and children, moving from place to place from May until October or November, without house or shelter except the upturned kiak. One of these serves a whole family; and there are times when as many as four or five hundred such temporary shelters can be seen on bars and along the low banks of the stream where fish and game abound. They present a striking appearance when the members of a family crowd their heads into the circular opening of the kiak with their feet and bodies protruding and exposed to the rain. "Surely," remarked the speaker, "many species of animals employ greater sagacity and energy in providing shelter for themselves and offspring."

These people drink a great deal of water without regard to

quality, taking it often from stagnant pools or ponds, where fish are cleaned and offal is thrown in. In their excursions out to sea they never take supplies of fresh water, but drink sea water. These practices have no apparent effect on their health. They never bathe or wash their bodies, but on certain occasions the men light a fire in the kashima, strip themselves and dance and jump around until in a profuse perspiration. They then apply urine to their oily bodies and rub them until a lather appears, after which they plunge into the river. The sports of children are all aquatic, such as sailing miniature canoes or pieces of drift wood, building fish-traps, throwing spears and arrows at gulls and other birds, and then wading or plunging in to recover them. In winter these people huddle together in their little quarters where they have no form of artificial heat except what is furnished by smoking and flaring oil lamps with wicks of moss. These houses are exceedingly close, and the only avenue through which air can enter is littered up with offal and filth of all kinds.

The paper was discussed by several members.

Prof. Mason inquired whether these people were much subject to diseases, such as consumption and rheumatism, and also relative to their longevity.

Mr. Petroff replied that they were subject to consumption. He thought that 50 years would be about the maximum age attained by them.

Major Powell remarked that the council-house is an institution common to many tribes, and that in most tribes it is called the sweat-house, or sudatory. He said that the Indian tent is a modern innovation, and that formerly they had dwellings of various kinds and materials. The skin tent was simply their portable shelter, besides which they had permanent ones. He also spoke of the great power of tribes to adapt themselves to their environment, and described the natural development of the pueblo dwellings and fortified villages from a primitive origin in mere temporary piles of loose stones thrown up for protection.

Dr. Reynolds stated that in Portugal, where soap was often very

dear or difficult to obtain, clothes were sometimes washed in urine as a substitute for it.

Dr. Morgan regarded the statement that the Innuits drank sea-water as very remarkable and unparalleled; he said he had heard that those shipwrecked sailors who remain in the water hold out longest owing to absorption through the pores of their skin, but they eventually die of thirst.

Mr. Petroff replied that he had employed them to take him out to sea, and seen them drink sea-water, never asking him for any of the fresh water he took with him.

Mr. Guss asked how far out to sea they ever ventured, and Mr. Petroff answered that they frequently went out of sight of land.

Dr. A. F. A. King read a paper entitled "THE EVOLUTION OF MARRIAGE CEREMONIES AND ITS IMPORT," in which he endeavored to show:

1. That primitive man, probably, had no marriage ceremony, but was governed in his sexual relations very much after the manner of brute animals, according to the "law of battle" among males, and the law of "sexual selection."

2. That the beginning of marriage ceremonies grew out of elements appertaining to social evolution and were not due to any anatomical or physiological changes in the organism, and resulted in the practical setting aside of the old law of "sexual selection;" just as at the present day we know marriages are most frequently determined by qualifications as to property, education, social position, political influence, &c., &c.

3. By the same factors the law of what he termed "œstruational selection" or "recurrent sexual coincidence" had been practically set aside. The natural working of this law provided that the human female (like the females of other beings) should only admit approaches of the male at periods more or less coincident with the epochs of ovulation. It, therefore, contributed to promote reproduction and perpetuation of the species. It accorded the female the privilege of consent or refusal. Throughout nature the male was the wooer, the female was wooed. It secured the female the

liberty of refusal during gestation, as well as the power to decline additional males when her physiological wants had recently been satisfied. Female animals were endowed with ample means of protection from the approaches of unwelcome males. It can scarcely be otherwise than that woman originally possessed the same privilege.

In connection with this part of the subject Dr. King referred to the views of McLennan, Lubbock, Spencer, and others, in support of the idea that the social evolution of the human race had been accompanied by phases of development, in which women had been made the slaves of men and had been bought and sold as wives, or betrothed for a consideration when infants, and subjected to marriage consummation regardless of any expressed desire or physiological want. Our own marriage customs were an outgrowth of these early phases of social evolution.

In conclusion Dr. King stated his belief that the present system of marriage among civilized peoples was, all things considered, the best that could possibly be devised. Monogamy, in order to satisfy the physiological wants of civilized males, may necessitate violation of the law of "œstruational selection" and compel the continuance of sexual union during pregnancy, and this, in its turn, might add to the ills of woman and multiply the diseases peculiar to her sex; but it was nevertheless a necessity, inseparable from the usages and maintenance of a high civilization. We might as well settle down to the conviction, once and for all, that it was useless to attempt a strict adherence to physiological laws and at the same time regard the requirements of civilized life; and hence had arisen, with the growth of every form of civilization, the enactment of State laws and the development of religions, without which the control and subjugation of natural instincts, in a way to secure the best results to all individuals composing a community, would be impossible.

Mr. Ward made some remarks on the portion of the paper which referred to the great difference between the sexual habits of human beings and of animals. He applied to the phenomenon as mani-

fested by man the term "male sexual selection" which he put in contrast with sexual selection proper as described by Darwin, and which is female sexual selection. This last he claimed was in turn due to natural selection, and the chivalrous deportment of male animals towards the females, which alone enabled the latter to select, had resulted from the natural selection of those species displaying it most by the inevitable extermination of those that sought gratification by force after the manner of uncivilized man. He regarded male sexual selection as a purely psychological phenomenon, and due to the influence of the mind in bringing about changes in the sexual habits of the human female. Both sexes becoming rational through the development of the brain, the males learned by various manifestations of cunning to influence the females in the direction of overcoming the apathies and aversions which nature gives her as a protection to her sex. Man appealed to woman's imagination and to her reason, faculties wanting in the lower animals; through appeals to her imagination he was gradually able to excite sexual feeling in her at times when pure instinct forbade it; through appeals to her reason he was able to secure submission at such times in exchange for other favors which he could confer and of which she in her subject state stood in great need. Even sexual caste, and the reverence of the women for the men by which the latter further secure the submission of the former at unnatural periods, is possible only to beings with developed mental faculties. In these and other ways a complete revolution in the sexual nature of woman had been produced. It must have taken place as gradually as cerebral development itself, otherwise adaptation would have been impossible. By it men, instead of being chosen by women, became the choosers of their wives, and female, had been converted into male sexual selection. Remarkable morphological changes had been the result, and just as in animals under female sexual selection male beauty had been produced, so in man under male selection female beauty had become predominant. He remarked upon the scarcity of scientific data on this

important question, and thought that medical men and biologists should take up and prosecute the investigation of comparative ovulation, menstruation, and sexual physiology.

Major Powell stated that the social life of savages had been much falsified by unscientific travelers seeking to invent large stories of their adventures among them; that in none of the tribes of North American Indians with which he was acquainted were children maltreated or women made slaves. On the contrary, the wife always belongs to a different gens from the husband, and he dare not harm her on penalty of vengeance from her own kinsfolk. He also said that there existed a fair division of labor between the sexes. The men provided for their families and the women performed the domestic service. He had seen much affection manifested between husbands and wives and by parents for children. Stories of infanticide were usually false. The theories of McLennan and Lubbock, relative to exogamy and endogamy, applied to none of our Indians, and he believed it to be wholly unsound, and due to superficial investigation, and especially to the confounding of the gens with the tribe. Marriage may occur within the tribe, but not within the gens; and different observers, utterly ignorant of their social system, have at times reported facts of the one and at times of the other of these classes, and created a totally false impression.

Mr. Dorsey made a few remarks strongly confirmatory of Major Powell's statements.

Dr. King asked whether the tribes under consideration did not occupy a comparatively high social position, and whether the theories combated might not hold true for much lower races.

Major Powell replied that for all tribes known to him, or from which any reliable accounts had been received, this was not the case.

THIRTY-SIXTH REGULAR MEETING, March 15, 1881.

Mr. Lester F. Ward read a paper entitled POLITICO-SOCIAL FUNCTIONS.[1]

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[1] "Penn Monthly," Vol. XII, May, 1881, pp. 321–336.

The principal object of this paper was to point out the wide schism which exists at the present epoch between the theories of political economists and the practices of States. The former are dominated by the negative ideas of Adam Smith and the English doctrinaires which constitute nearly all the literature of the subject, and are taught and professed almost universally. Notwithstanding this it was shown by profuse illustrations from history and statistics that the policy pursued by the various governments of the world is totally opposed to these teachings, and scarcely at all affected by them. The political economists declare that the true province of government is simply to protect the spontaneous operation of natural laws working in society, which will then work out all the results of civilization, and that any interference with these natural operations will be either wholly inoperative or will result in mischief. They found their doctrines upon the observed phenomena of the physical world which are known to be uniform and invariable. This they hold to constitute true political science, analogous to all physical science.

Notwithstanding the unanimity of writers, past and present, on this subject, positive state regulation, especially during the last quarter of a century, has made rapid strides, and nearly all civilized governments are openly violating these economic rules. The post office, the telegraphs, and the railways of many countries are passing under government control, while national banking and national education are rapidly superseding private banking and private instruction.

It was further shown that the desire for positive regulation consists for the most part of a mere intuition, or social instinct, and coexists, even in the same individual, to a great extent with the incompatible belief in the *laissez faire* policy of the schools. This greatly complicates the problem, and renders it highly important that a clear exposition of the grounds on which the positive policy is conducted be made. In seeking to do this it was shown that the unrestrained operations of natural laws in social phenomena invariably result:

1. In unjustifiable inequalities in the distribution of wealth, due to the general truth that there is no necessary harmony between natural law and human advantage.

2. In enormous waste of created products, due to the ruinous excesses of competition, entailing failures and losses.

3. In artificially increased prices, due to over-supply, the result also of competition, especially in distributive industries.

4. In dangerous monopolies, whether industrial or financial, which threaten to enslave labor and dictate commerce.

These propositions were supported by statistics of corporations and of public and local debts. It was also argued that, from the standpoint of science and the laws of evolution, all these results are the normal and legitimate products of natural law, and that there is no tendency in unregulated nature to reverse the process and disentangle these complicated social phenomena.

It was moreover denied that all attempts at government regulation had proved failures or resulted in an excess of evil to society. The various industries which have been absorbed by government and successfully conducted were enumerated at length, and it was shown that there were many such in this country, still more in Great Britain, and a maximum number on the continent of Europe. The extent of State ownership and management of telegraph lines in England and in Europe generally, and of railroads in Germany, France, Belgium, and Italy was exhibited by facts and figures; the prevalence of national savings banks throughout Europe and the character of the systems of education of Germany, Austria, France, and England were adduced in support of this view, as also the tendency now manifest towards the protection of home industries throughout the world.

From this basis of facts and from history the broader generalization was then made, that all the now recognized government functions have once been under a system of private management, and have had, each in its turn, to pass through the stage of opposition from those who would keep them so, and one by one have gradu-

ally taken their places as integral parts of the system of government. Finance and jurisprudence were given as examples of this truth, the former of which has scarely as yet and the latter only quite recently assumed its true position. This process is moreover destined to continue, until all truly public operations shall come more or less directly under the power of state regulation. Contrary to the general belief, this result is not often reached before the time is ripe for it. Such is the aversion to innovation that the evils of private management usually become well nigh intolerable before the state is able or willing to step in and relieve them.

The want of an adequate term for expressing this conception of the assumption by the state of the control of interests of a public nature was next pointed out, and it was proposed to designate the entire movement by the name *Sociocracy*, as a new word, etymologicaliy akin to *sociology*, and avoiding the stigma which attaches to all expressions for the government regulation of industries whose public nature is disputed. This term embraces all the functions of government, whether universally acquiesced in or not. It also conveys a distinctly different meaning from either *democracy* or *socialism*, and stands simply for positive social action as opposed to the negative or *laissez faire* policy of the predominant school of politico-economic doctrinaires. It recognizes all forms of government as legitimate, and, ignoring form, goes to the substance and denotes that, in whatever manner organized, it is the duty of society to act consciously and intelligently, as becomes an enlightened age, in the direction of guarding its own interests and working out its own destiny.

President Powell remarked that it was a curious fact that no college teaches the positive doctrines of political economy, carried out to so large an extent by the government. He said that the doctrines taught by Herbert Spencer and that school, would, at a rough estimate, if practiced, neutralize nine-tenths of the legislation of the world. Modern legislators, while professing to sub-

scribe to these doctrines, are in practice chiefly employed in considering to what extent they shall be violated. He further pointed out the fact that the theories now prevailing became popular at a time when government was unpopular, which is not now the case, the latter having become representative in form. Former attempts at government regulation were impracticable, because they sought to control opinion. The form of control now exercised is of a very different kind, and is practicable and effective. He showed that the natural evolution of industry was legitimate and harmless so long as it was confined, as it must necessarily be at first, to simple differentiation, but when the differentiated parts commenced to become integrated, there arose grave social evils. He was not hostile to corporations, but held that they were the instruments through which nearly all the operations of society would eventually be performed. But they require regulation, and he thought that the principal work of legislation would ultimately be the adjustment of the relations of corporations to the public and to each other. Government has developed from its primary condition—the family. Feudalism was the transition stage from kinship government to property government. Modern civilized society is based on property, the unit being the individual. He believed that the social unit will eventually be a business corporation, and that there will be a hierarchy of corporations, the highest of which will embrace all the rest and constitute the government. The basis of society will then cease to be property, and will become industry.

Dr. Rock said that the policy and interests of all nations seemed to be growing more and more uniform, and he thought that this tendency was in the direction of an ultimate consolidation of all nations under one government. In South America nearly all industries were under the control of foreign companies and capitalists, and it was a common saying there that it made little difference how much was produced, the people could not retain any of it, as it all goes to London or some other wealthy foreign mart. Hence the necessity of nations being self-sustaining.

Prof. Otis T. Mason commenced to read a paper entitled THE SAVAGE MIND IN THE PRESENCE OF CIVILIZATION, but the hour of adjournment arrived before he had completed it.

THIRTY-SEVENTH REGULAR MEETING, April 5, 1881.

Professor Otis T. Mason concluded the reading of his paper commenced at the preceding meeting, entitled THE SAVAGE MIND IN THE PRESENCE OF CIVILIZATION. The following abstract has been furnished:

1. The progress of civilization has been guided and stimulated in every age by the presence of peoples more advanced in any regard. It is impossible for beings constituted as we are to look upon the processes or results of industry different from or more advanced than their own without emotion, accompanied with emulation or despair, according as the object may or may not be beyond their reach.

2. Theoretically this fact is related to chronology, reversion, flexibility of races, technology, language, social system, and religion.

3. There are certain lines or categories of culture, such as food, dress, shelter, war, industry, ornament, gratification, traffic, family organization, government, and religion, along which there has been evolution and elaboration.

4. Among these categories themselves there is gradation, nearly in the order named above. It is more difficult for a people to change in the higher and more intellectual than in the lower categories. It is, therefore, easier to induce a people to change food, dress, implements, weapons, &c., than to alter their language, kinship, government, and religion.

5. In each class or line there may be, and probably are, well marked stages of progress, corresponding to Mr. Morgan's periods. If the categories, therefore, are represented by parallel perpendicular lines, the total simultaneity would be marked by lines like parallels of latitude or isotherms crossing the categories.

6. Attempts to leap over these consecutive steps of culture, or to substitute progress in one category for that in another, ignoring the intermediate ones, have been fatal in several ways: 1. They have presented a discouraging chasm between the starting point and that to be reached. 2. The transition has made unnatural and frequently fatal strains upon the organism, both in its physical and psychical constitution. 3. If by reason of mixed blood or extraordinary natural gifts the subject be forced to the status of the higher race, he is still ostracised. He cannot compete with the dominant race against capital, inherited proclivities, and racial prejudice. On returning to his own people he is spurned for his ignorance of the old paths, and is unable to induce his people to don the new fashions. The experience of nearly all authors whom I have consulted is that these highly stimulated savages either perish miserably or become lazaroni among their own people or the dominant race.

7. In conclusion, it is strongly insisted on that the only valuable education to a lower race is that which enables the subjects to develop their highest energies and intelligence among those where their lives are to be passed. In its true and widest sense education is not confined to school instruction. It embraces all that changes in the presence of higher culture. It cannot be too strongly insisted upon that functions vary easier than structure. Just as it is difficult to change the structure of a tree, which nevertheless we may use for fruit, for shade, for ornament, or for timber, almost indifferently; or the structure of a horse which the farmer may employ almost equally in the thousand and one operations of his craft; so is it with this wonderful organism called society. Functions may change many times in the life of an individual, but the edifice of the body politic, the family, and the church, can be reconstructed only with the greatest wisdom and patience.

President Powell remarked relative to the efforts described by Prof. Mason, which had been and were being made to educate the Indians in special schools and institutions for the purpose, situated

in civilized communities, that they had generally proved failures, and would in his opinion continue to prove such. Those persons thus educated usually become worthless citizens either of their own or of civilized communities. He claimed that the facts, and his conclusions drawn from them, were based on broad ethnological principles, and the movement was conducted in ignorance or disregard of those principles. He had at one time contemplated giving publicity to his views on the subject, but was dissuaded from so doing by a consideration of the worthy and philanthropic motives from which these efforts proceed. He urged that if they are to be continued it is important that the subjects for such education be selected from the most advanced tribes, and those which had been longest in immediate communication with the whites. He thought, however, that the Indians were really becoming rapidly civilized, especially in reservations where they come into constant contact with the whites. They are learning how to dress, to do business, to use money, and to travel, and the schools established among themselves are doing great good. He further stated that on visiting the Numas he had been surprised at finding two distinct kinds or sets of governments coexisting among them at the same time, and two chiefs, each apparently supreme. On investigation he learned that the regular chief or medicine-man had little or nothing to do with the practical affairs of the tribe, and that the virtual chief had slowly been developed from the condition of interpreter or "talker," who at first was selected for his ability in conducting the business of the people with the surrounding whites; and as this business became more and more important, his powers became greater and greater until he has at length come to be regarded as the real chief of the tribe.

Dr. Welling corroborated the remarks of Major Powell, and instanced the case of an African missionary who, after a lengthy sojourn among the lower tribes, returned convinced that missionary work among them must remain next to useless until the practical civilizing agencies, such as the mechanic arts and the schoolmaster,

can be made to accompany and reinforce it. He thought that the efforts in question were useful only in furnishing high ideals, and keeping them before the minds of men.

Mr. Ward inquired whether there was any evidence of nominal subordination of the virtual to the regular chief, analogous to that which exists in many countries where the Prime Minister is the virtual ruler, and the hereditary king or queen a mere figure-head.

Major Powell replied that such evidence existed, and gave an illustration in support of that view.

Dr. Fletcher commenced to read a paper entitled CRANIAL AMULETS AND PREHISTORIC TREPHINING,[1] which was continued to the next meeting.

THIRTY-EIGHTH REGULAR MEETING, April 19, 1881.

Dr. Robert Fletcher concluded the reading of his paper entitled CRANIAL AMULETS AND PREHISTORIC TREPHINING, of which the following is an abstract:

The first communication upon the subject of cranial amulets was made by Prunières to the French Association for the Advancement of Science, at their meeting held at Lyons, in 1873. He presented what he termed a "rondelle," discovered in the interior of a skull in one of the dolmens of La Lozère. A large portion of the skull had been removed, apparently by some rude instrument. Other discoveries of a similar character continued to be made, and it was for some time supposed by Prunières that the condition of the fragments resulted from attempts to make drinking cups of the skulls. When they were submitted to Broca for examination, he at once asserted that certain parts of the edges of the rondelles and of the apertures in the crania gave evidence of reparative process, and that an operation, resembling that known to us as trephining, must

[1] Will appear in full in "Contributions to North American Ethnology," vol. V, pp. 1–32, with plates.

have been performed, and which the patient must have survived many years.

That no weapon could have produced the openings found in these crania was demonstrated by drawings showing the effect of sabre cuts and of contused blows. A remarkable peculiarity observed was that a small portion, at least, of the cicatrized edge was left on the rondelles and on the apertures in the skulls. The difference between this cicatrized edge, with its rounded ivory-like surface and the sharp edges produced by sections made after death, were easily discerned.

The evidence (which was very fully given) led Broca to the conclusion that the operation was performed on very young children; that it probably had no religious significance, but that it was intended for the relief of fits or other nervous disorders. A like operation is performed to this day by natives of the Polynesian Islands, and for a similar purpose.

Broca believed that the operation was performed by scraping, and he produced very similar results on the dry skull, and on a living puppy, with pieces of flint. The cicatrized apertures, when undisfigured by post-mortem incisions, are of an ovoid shape with edges widely beveled at the expense of the outer table. Lucas-Championnière produced a similar result by drilling a series of holes in a skull with a pointed instrument, running them into each other so as to enable the fragment of bone to be removed, and afterwards scraping the serrated edges smooth.

Certain tribes of Kabyles practise the operation in this manner at the present time, the operator, the instruments, and the dressings all having a semi-sacred character. It is performed by them as a means of relief for pains in the head, but chiefly after injuries by stones, which are the ready and common weapons of offense in their sterile land.

Although by far the largest number of cranial amulets and trephined skulls now stored in the anthropological museums of Europe have been discovered in France, yet similar relics have been found

in many parts of Germany, in Denmark, Russia, Portugal, and Algeria. [A full account was given of these explorations.] Nothing of the kind has, so far, been found in Great Britain.

In the United States no specimen that can be classed with the custom under discussion has been discovered. In 1875, Mr. Henry Gilman described some perforated crania which he had exhumed from mounds on Sable river, but the aperture was, in each case, at the vertex, and unmistakeably produced on the dried skull.

The famous Inca skull brought by Mr. Squier from Peru, and presented to the Paris Society of Anthropology, exhibits a remarkable instance of trephining which the patient must have survived about ten days, in the opinion of Broca and Nélaton. The operation, however, was entirely unlike that of the neolithic age; two incisions, made apparently by a saw, were crossed by two others at right angles, thus removing a square piece of bone. Mr. Squier was of opinion that the skull was of undoubted pre-Columbian date.

Since the publication of Broca's papers on this subject, discoveries have been made showing that prehistoric trephining was sometimes practised on grown persons, and for diseases of the bones of the cranium. Another curious discovery was made of skulls (about twenty in all) in which an incomplete operation had been performed, the outer table, only, having been scraped away. A similar operation has in later times been recommended for the cure of epilepsy.

It has been suggested that the tonsure of priests was a perpetuation of this curious custom.

The conclusions arrived at by the writer were these:

1. The large number of perforated neolithic crania exhibiting cicatrized edges, establishes the existence of a custom of trephining.

2. The operation was performed on both sexes, and generally at an early age.

3. The purpose is doubtful, but from analogy it would seem to

have been for the relief of disease of brain, injury of skull, epilepsy, or convulsions.

4. The operation was probably performed by scraping; possibly by a series of punctures. It seems likely that the first was employed for children, and the latter for the harder skulls of adults.

5. Posthumous trephining consisted in removing fragments of the skull of a person upon whom surgical trephining had been performed.

6. Each fragment was to exhibit a portion of the cicatrized edge of the original operation; and the purpose was, probably, to form an amulet to protect from the same disease or injury, for relief of which the operation had been performed.

In reply to a question by Prof. Mason, Dr. Fletcher explained that the Inca skull appeared to have been perforated by some saw-like instrument, and that the operation was probably performed only a few days before death.

The President remarked that among Indians pathology consists of a sort of mythical zoölogy; that local diseases, such as sore eyes, boils, etc., are attributed by them to the presence of worms, flies, bees, etc., regarded as incorporated spirits. Their method of curing such diseases consisted, therefore, in making openings for the escape of these creatures. This was their conception of the efficacy of blood-letting, which was extensively practiced. The disease-organism escaped with the blood. Searing was resorted to for the same purpose, and a variety of punctures were made, differing in different cases. He suggested that all the cases of cranial perforation might be accounted for as so many modes of letting out the headache spirit or animal.

Prof. Gore stated that he had observed in the Medical Museum perforated skulls, containing within loose pieces of skull of larger size than the orifice, and which, therefore, could not consist of the piece cut out.

Dr. Fletcher thought that none of these various forms of skull perforations had any relation to the practice of trephining.

Dr. H. C. Yarrow then read a paper entitled SOME SUPERSTITIONS OF THE SIOUX INDIANS.[1]

The reader disclaimed presenting the paper as an original effort, the material having been furnished by Dr. Merritt, of the army, who obtained it from Mr. Wm. Everett, a Government scout. He considered that gentleman entitled to great credit for the account. Mr. Everett stated that the Sioux believe they go direct to the happy hunting grounds, after passing a great divide upon which their dead enemies attack them, and for this reason they need their horses, weapons, &c. If the spirit pass unscathed and reach the desired haven the friends who have gone before meet them, and all is joy. If they have lost members of the body, or been mutilated, all is restored as before at this place. Their idea of sickness is that a bad spirit enters the body and must be driven out. If the patient dies he has been conquered by the bad spirit. The spirits of bad Indians are sometimes sent back to earth to do penance for their sins, in the shape of animals. The men are supposed to turn into buffaloes, wolves, and bears; the women into deer or owls. A curious example was given of a conversation which took place between Sitting Bull and a wolf in regard to the position of a herd of buffaloes. The awe the Indians experience regarding the white-tailed deer was described. It is thought that women become deer after death, and an Indian dislikes to kill one of these animals, for fear of hurting the spirit of his sweetheart. It is believed, too, that hunters have been found strangled by the white-tailed deer spirits, and a story was given in detail how a number of youth perished who were foolhardy in hunting them.

The President made the general comment upon the legends recorded in the paper that they appeared to have been largely colored by conceptions of white men engrafted upon them.

[1] Published in full in the "American Antiquarian and Oriental Journal," No. XIV, Vol. IV, 1882, pp. 136–144.

The following paper was then read by Rev. J. Owen Dorsey: THE YOUNG CHIEF AND THE THUNDERS: AN OMAHA MYTH.

Once there was a great chief, who had a lazy son. In spite of all the advice which his father gave him he spent all of his time in eating and sleeping. He would neither travel nor take a wife. At length he had a separate lodge made for him. He entered it and fasted for four seasons, speaking to no one. Only once in a while he took very small supplies of food and water, which his mother brought him. As he fasted, he saw a deity, who told him that he could do whatever he desired, and he thought that he would like to wear a robe of scalps; so he summoned the young men of the tribe, and made up a war party, which started in four days. At length they came to an old man, who was very poor. No one but the chief knew that he was a Thunder. They pitied him, and gave him some of their robes, etc. The old man spoke of giving them something in return. Just then his servant, a coyote, winked at the chief, who followed him out of the lodge. The coyote told him to choose the otter-skin sacred bag, when the old man showed him that and three others. They re-entered the lodge. The old man asked them which one of the four sacred bags they would take. The swallow bag would insure a return in half a day, with scalps, etc; the hawk bag would bring them home triumphant in two days; the third would keep them away a little longer. "As for this otter-skin," said he, "it is good; but it is old and worn." And, grasping the otter-skin, the chief said, "Notwithstanding that, grandfather, I will take that," and the old man was in a bad humor and scolded his servant. "No, grandfather," said the chief, "he did not tell me. I chanced to decide so." And the old man gave him a wooden club with the otter-skin bag. "The owner of the bag does whatsoever he desires, in spite of all difficulties. It kills a great many people. If you wish to kill all the people in any place, whirl this club around your head four times, and at the last time say 'Kau.' It will make thunder." The old man knew the desire of the chief. Four days after that the chief sent out four

scouts. They found a village. When the party reached the village the chief told them that he was not seeking it, but something else. There were similar occurrences on three successive days. On the fourth day he sent out scouts again, saying: "Warriors, should one of your grandfathers be there, do not kill him." They met a buffalo, and, after some disputing, one shot at it, and the buffalo killed him. The survivors reported this to the chief, who said, "Did not I tell you not to harm your grandfather?" On reaching the body they buried it and passed on. The next day, after a similar warning, the scouts attacked a big wolf that killed one of their party; so on the third day, when they met a grizzly bear. On the fourth day they came to the end of the sky, which passed up and down very rapidly. Each time it went down into a deep chasm in the earth. The chief warned the warriors to jump across without fear. He was the first, and all but one followed in safety. One failed, and the end of the sky carried him down into the earth. So they went and went, for days. At last they saw a very high hill and a dense cedar forest. The men had become tired of journeying so far. "Well, warriors," said the chief, "we are going thither. We will then return home." Four scouts were sent out. They saw the smoke, but could not find the lodge. It was not till the fourth day that the scouts for that day found the lodge, which all entered. There sat a very aged man, with an unusually large head ahd plenty of white hair. (He was a Thunder.) The old man thought, "Though my brothers may have much trouble by going to so great a distance hunting for game, some men have brought themselves right into this lodge, where I can kill them with ease." The chief thought, "Whew! I have said that I would have a robe of scalps. I think that here is the very thing. I will have it." By and by another old man entered, bringing a black bear. He, too, had a large head, and his hair was very red. A third old man, with very yellow hair, came with a buffalo. The fourth brother, who had very green hair, brought the body of a man; and he who had red hair said, "Brother, have these men eaten?" "No, they

have not eaten. Cook for them slices of squash," said the one with white hair; and they cooked the ears of the dead man. "We do not eat such things," said the chief. "If so, what do you eat?" said the old man, pretending that he thought they did not like sliced squash. "Cook ye fine sweet corn for them," said he, meaning lice. When the chief saw what it was, he said, "We do not eat such things." And one of the Thunders said, "Let them cook the bear and buffalo for themselves." And the men were glad. Having done their own cooking, they had pleasure in eating. Then it was night. After the meal the man with white hair said, "Grandchild, if a man travels he has plenty of things to talk about. Tell about yourself." "True, grandfather," said the chief, "you are grown, and are an old man, so you must know a great many things. So you can tell about yourself first." "Well, grandchild, though I am an old man, I have nothing to tell about myself; but I will tell a myth." "Once upon a time, grandchild, there was an old man, who lived with his three brothers. The brothers went far away to hunt game; but they returned home at night. Once when the old man was the only one taking care of the lodge, a great many people entered it. The old man thought, 'Though my brothers have undergone much in travelling so far after game, I will kill a great many persons right at home.' Come, grandchild, now is your turn." "Yes, grandfather, let me tell a myth. Once there was a powerful chief, who had a lazy son. Though his father frequently urged him to travel, he would not heed him. He had not the least desire to do anything. By and by the son said that he was going to fast, so his mother made a lodge for him. As he fasted, he thought he would like to wear a robe of scalps, so he went on the war-path with many followers. And there were four old men who lived together. The chief and his party went thither. When they reached the lodge the leader sat thinking, 'I have said I will wear a robe of scalps. Truly, this is a good robe. I will have it.' One of the old men had white hair, one had red, the third had yellow, and the fourth green hair."

And the old man laughed at him, "Ha! Ha! Ha! My grandchild has, I think, guessed the very thing." That night the chief lay with his eye peeping through a hole in his robe, as he wished to watch the old men. He told his men not to sleep. While they were lying the first old man lifted his head very cautiously, and looked at the (supposed) sleepers. At last the old man seized his hammer, but just then the chief sprung to his feet, whirled his club, and at the fourth time, said, "Kau." He killed the four old men. "Warriors, arise, and take the hair of all; take each scalp in one piece." Then they went home. When they reached the end of the sky the chief made his men jump across in advance of him. Running very fast, he made a flying leap, bringing up the man from the ground, and reaching the other side, both being alive. He did in like manner at the graves of those who were killed by the bear, wolf, and buffalo. Thus it happened that he took all of his men home alive. As they went home they saw the many villages which they had reported to the chief on their former march. "Well, warriors," said the chief, "you, too, shall wear robes of scalps." So he killed the people of four villages with his club, and gave to each of his friends enough scalps for a robe. And they reached their own village, and all his villages made him head chief, and he governed them.

The President inquired whether the legend was taken literally from the Indians, and Mr. Dorsey replied that he wrote it out as dictated to him by one of them.

Prof. Mason referred to the tendency of such stories to grow by repetition.

Mr. Dorsey said he had often obtained two or three different versions of the same myth.

THIRTY-NINTH REGULAR MEETING, May 3, 1881.

Dr. Clay MacCauley read a paper entitled PERSONAL CHARACTERISTICS OF THE FLORIDA SEMINOLES.

Dr. MacCauley prefaced his paper with a statement of some interesting facts he had found in taking a census of the Florida Indians. Chief among them was the peculiarity of special moment to the future of the tribe, that, while Seminole society is polygamous, the number of males in it between five and twenty years of age far exceeds that of the females less than twenty years old.

In reference to the personal characteristics of this tribe of Indians the speaker turned attention to their physique, their manner of clothing themselves, their personal adornment, and their psychical qualities, successively, giving ample description and copious illustration to each part of his subject.

The paper, of which it is difficult to make a proper abstract, closed with the words: "Recalling, then, what I have recorded of my observations of the personal characteristics of the Florida Indians, they present themselves as a unique people, as a rule, superior to a high degree in their physical development of form and feature, novel and curious in their costume, and peculiar in the ornamentation of their persons and clothing; and, so far as personal characteristics distinctively psychical are concerned, as a people, not only, as was hitherto acknowledged, brave in warfare, and proud and independent in their relations with the white man, but also well endowed with the gentler and more attractive personal traits, amiability, truthfulness, frankness, and geniality in their intercourse with those who have gained their confidence, and gifted with comparative excellence of intellectual faculties and activity, patience, and persistence in mental effort."

At the conclusion of the paper Prof. Mason inquired whether the well developed limbs described as characteristic of the Seminoles might not in some cases be due to bandaging and other artificial devices sometimes resorted to by savages.

Dr. MacCauley replied that, as the children always go naked, this was impossible; and he was sure that no such practices prevailed. In answer to further questions, he stated that the hole

pierced in their ears were very small, but often numerous; that he had not seen shells or pearl beads used as ornaments.

Dr. Antisell asked what the Government was doing to benefit these Indians, and Dr. MacCauley replied that nothing was being done; that the Seminoles refused to accept any aid, and were independent without any. The attempt of Capt. Pratt to obtain from them students for his school at Carlisle had been repelled with indignation. In reply to a question by Mr. Thomas, he further stated that the Creek and Seminole languages were originally the same, but that at present the several gentes of the Seminoles were not homogeneous. The Otter, Tiger, and Wind gentes are the ruling ones.

The President called attention to the term Seminole, which properly signifies renegade, scattered, or dispersed, and has been fastened upon these Indians because they refused to go with the body of their tribe after the war with the United States. He further remarked that with these Indians clothing seemed to have been originally used for ornament rather than protection. The lower garment, or petticoat, described by Dr. MacCauley, was formerly the only one worn by the women, who had no sense of modesty which required them to clothe the breasts. The short upper garment, now worn as described in the paper, was a modern innovation probably taken from the whites. He also spoke of the turban, which was originally purely ornamental, and was often made in fantastic fashions out of the skins of the heads of animals or large birds.

Prof. Mason called attention to the law of ethnic progress that customs relating to clothing, ornamentation, &c., yield less readily and quickly to the influence of contact with civilized races than do those of a more practical or industrial character, such as arms, agricultural and mechanical implements and pottery. He had often been surprised to observe along what irregular and, as it were, irrationally drawn lines civilization advances.

Fortieth Regular Meeting, May 17, 1881.

Dr. W. J. Hoffman read a paper entitled The Application of Gestures to the Interpretation of Pictographs. The following is an abstract of the paper :

The speaker stated that, apart from the direct representation of objects in the picture writings of the North American Indians, those subjective ideas which were beyond the range of the artist's skill formed the parts most difficult of interpretation. As attempts at the reproduction of gesture lines are of frequent occurrence in pictographs whose meaning is known to us, it was suggested that a knowledge of the gesture language was essential in deciphering others, the import of which was unknown. Numerous examples were submitted illustrating the gesture origin of apparently unintelligible characters, but as the nature of the paper demanded illustration on the black-board it is impossible to attempt an abstract satisfactorily.

Col. Mallery remarked that, as Dr. Hoffman and he had been working together on the subject of the paper, with constant interchange of views, he naturally had no criticism to offer upon it. It was, however, of interest to mention that the idea which had borne fruit in the present paper was suggested by him in some sentences of a paper read before this society on October 21, 1879—to the effect that Indians and other peoples among whom neither alphabetic nor phonetic writing was known, and whose artistic skill was limited to the rude outline portraiture of a few objects, would, in seeking to represent ideas graphically, resort to the lines of gesture signs already used by them with distinct signification. This deduction at the time was supported by little ascertained proof, but the subsequent studies both of signs and of pictographs had established it to be correct, of which the paper read was sufficient evidence to the Society. The same illustrations drawn on the black-board by Dr. Hoffman had also been drawn by him, together with others, for the engraver, and will be produced under one of

the headings of a work on sign language, which itself formed part of the Annual Report of the Bureau of Ethnology now in press.[1] Its publication will direct attention to the interpretation of ideographic characters in many parts of the world, through the significance of gesture signs, and also react upon the scientific study of sign language as a former general mode of communication between men. Though the published presentation of the suggestion had hitherto been imperfect, he had already received gratifying assurances from European scholars of their success in discovering gesture signs included in Egyptian and Akkad glyphs, as well as in the radicals of those languages. Mr. Hyde Clarke, Vice-President of the Anthropological Institute of Great Britain and Ireland, had specially shown interest in the investigation.

President Powell was glad to note that rational principles and methods were being applied to the solution of such questions. The true value of facts consists in their proper and rational interpretation. Human history is being rewritten to satisfy this sentiment. The isolated facts of the old style of chronological history are useless, and now it is necessary to go over the ground again, for the purpose of deducing from them the laws of progress and of society. It is the same with ethnological facts. These pictures convey no meaning in themselves, and the work of true science is to discover such laws as will lead to their proper interpretation.

FORTY-FIRST REGULAR MEETING, June 7, 1881.

Professor Samuel Porter read a paper entitled VOWEL SYSTEMIZATION, of which the following is an abstract:

On the theory of Helmholtz, the character of each vowel is produced by the reënforcement of harmonic tones in the oral cavity. That of Donders finds it in the noises that go with the tone. The truth lies in a combination of the two.

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[1] "Sign Language among North American Indians compared with that among Other Peoples and Deaf-Mutes." By Garrick Mallery. In "Annual Report of the Bureau of Ethnology," 1879–80, pp. 269–508.

In classifying the vowels we are to look to the positions and motions of the organs. The scheme of Mr. A. M. Bell assigns to each vowel a distinct palato-lingual position, to which may be superadded a labial or a nasal modification. It divides the vowels, "horizontally," into "back," "front," and "mixed," as the place of closest constriction falls on the soft or on the hard palate or in some sort between the two. These it subdivides, "vertically" (so described with questionable propriety, the subdivision being as truly horizontal as the main division), into "high," "mid," and "low." High-back: p*oo*l. Mid-back: m*o*st. Low-back: s*aw*. High-front: s*ee*. Mid-front: *été* (Fr.). Low-front: th*ei*r. High-mixed: *ea*rth. Mid-mixed: gab*e* (Ger.) Low-mixed: b*i*rd. These are the "primary" of Mr. Bell and the "narrow" of Mr. Henry Sweet; and for each there is a corresponding "wide:"—*e. g.* narrow: p*ee*l, *été*, th*ei*r; wide: p*i*ll, p*e*t, th*a*t. Labials are called "round;" thus, p*oo*l is high-back-narrow-round. Mr. Bell explains the wide by an expansion of the pharynx; Mr. Sweet, by a depression of the upper surface of the tongue. In this Prof. Porter agrees substantially with Mr. Sweet; but, instead of two, he would, for nearly all the vowels, mark four degrees, which he would call *close*, *half-open*, *open*, and *open-depressed*. Thus, the *i* half-open, as Frenchmen, Germans, and Scotchmen pronounce b*i*t, *i*s, s*i*ck, pos*i*tion, &c. The open depressed, a drawling, dialectic pronunciation of the short stopped vowels, *i*, *e*, *a*, and others; or, sometimes, properly used for emphasis; a natural concomitant of nasalization; also, the initial of some diphthongs, a depressed degree of the open *u*, in b*u*t, being the initial of our long *i*.

Prof. Porter would make only a two-fold instead of the three-fold subdivision of the "mixed," and would place in this class the French *eu* in most cases, and the German *ö* in at least many cases, and not among the "front" as a labialized *e*, as do Messrs. Bell and Sweet; and would place here the *u* in *u*p, b*u*t, instead of among the "back" vowels.

Concerning the Italian *a*, the *a* in *father*, *ask*, *pass*, etc., Prof.

Porter maintains that the place of constriction is not on tongue and palate, but between the back wall of the pharynx and the tongue at or just above the epiglottis. It belongs, therefore, not among the "back" vowels, but in a class by itself; and with this agrees the fact that the more open form of this vowel is the naturally long, while for all others the open, or "wide," is the naturally short. It is important to notice that the guttural passage, the *fauces*, may be so adjusted as to make a compartment distinct from the fore part of the mouth, and separated on the anterior edge of the *ramus* of the lower jaw. With the tongue for a floor, pharyngeal muscles for side walls, the elastic curtain of the soft palate for a roof, the muscular "pillars of the fauces" flanking the entrance, we have a chamber highly dilatable and contractible and adjustable in various ways. Prof. Porter holds that, for the Italian *a*, the resonance chamber is limited to the compartment made by this passage and the lower part of the pharynx. For the proper "back" vowels, *oo*, *o*, and *au*, the soft palate is curved forward toward the tongue, contracting the entrance and at the same time the walls of the passage, and extending the resonance chamber forward.

The number of possible vowel-modifications being theoretically infinite, a perfect system will mark just so many distinctions as will seem to be necessary and sufficient, considered as approximative points of reference.

Mr. Ward called attention to the similarity of the conclusions reached by Prof. Porter to those which he had announced in a paper read before the Society on the 21st of December last, and read a paragraph from the abstract of that paper as printed in the "Abstract of Transactions," (p. 106). He also testified to the general rationality and correctness of the order in which Prof. Porter had arranged the principal vowels with respect to the probable location of the sound in the mouth and pharynx. He commented upon Bell's chart representing his system of vowel sounds, and pointed out a number of inconsistencies in it.

President Powell said that in consequence of the infinite variety of possible sounds, it was impossible to classify them except by types. No two persons speak alike; no two voices are alike; and instrumental tests have shown that the same person cannot pronounce the same vowel twice in precisely the same way. Prof. Bell had frequently demonstrated this by means of the telephone. The effect on the instrument was different with each attempt, and having made a sound once he found that he could never exactly repeat it. The passage of a vibration of air through the complex mechanism of the human voice is so heterogeneous in its character that it is impossible for two men to utter precisely the same sound. Two sounds thus made may be very nearly but cannot be exactly the same.

In the course of his work during several years past, in endeavoring to devise an alphabet with which to write the sounds embraced in various Indian languages, he had come to the conclusion that he could not describe sounds by describing the way in which they are made; that, in the present state of the science of phonology, it was only possible to compare them with those by which they would be recognized. He could only describe the way in which something like the sound is made. He therefore thought that a common system of pronunciation for all languages was a physical impossibility.

FORTY-SECOND REGULAR MEETING, June 21, 1881.

Prof. G. Brown Goode read a paper entitled THE FISHERMEN OF THE UNITED STATES. The following is an abstract:

For every man engaged in the fisheries there is at least one other man who is dependent to a considerable extent upon his labors for support. To the class of "shoresmen" belong (1) the capitalists who furnish supplies and apparatus for the use of the active fishermen; (2) the shopkeepers from whom they purchase provisions and clothing; and (3) the skilled laborers who manufacture

for them articles of apparel, shelter, and the apparatus of the trade. In addition to the professional fishermen, there is a large class of men who have been called "semi-professional" fishermen—men who derive from the fisheries less than half of their entire income. Taking into account all those persons who are directly employed in the fisheries for a larger or smaller portion of the year, those who are dependent upon fishermen in a commercial way for support, and the members of their families who are actually dependent upon their labors, it cannot be far out of the way to estimate the total number of persons dependent on the fisheries at from 800,000 to 1,000,000.

The total value of the product, *to the producers*, of the fisheries of the United States has not yet been definitely determined; but it will doubtless prove to be somewhere near forty-five millions of dollars. The value of the product, when it reaches the consumer is at least $250,000,000. Of the thirty-one States and Territories whose citizens are engaged in the fishery industry, seventeen have more than a thousand professional fishermen. The most important of these States is, of course, Massachusetts, with from eighteen to twenty-five thousand men. Second stands Maine, with ten to twelve thousand, unless indeed the 16,000 oystermen of Virginia and the 15,000 of Maryland are allowed to swell the totals for those States. Maine, however, stands second so far as the fisheries proper are concerned. Third comes New York with about 5,000 men, then New Jersey with 4,000, North Carolina with 3,500, Oregon with its horde of salmon fishermen, 2,500 in number, Florida with 2,100, Connecticut and California with about 2,000 each, Michigan with 1,781, Wisconsin with 800, Georgia with 1,400, Ohio with 1,046, Delaware, Rhode Island, and South Carolina, each with about 1,000, New Hampshire, Alabama, Louisana, and Texas with about 400 each, and Mississippi with only 60.

The majority of our fishermen are native-born citizens of the United States, although in certain localities there are extensive

communities of foreigners. Most numerous of these are the natives of the British provinces, of whom there are at least 4,000 employed in the fisheries of New England. There are, probably, not less than 2,000 Portuguese, chiefly the natives of the Azores and of the Cape Verd Islands. Very many of the Portuguese have brought their families with them, and have built up extensive communities in the towns whence they sail upon their fishing voyages. There are also about 1,000 Scandinavians, 1,000 or more of Irish and English birth, a considerable number of French, Italians, Austrians, Minorcans, Slavs, Greeks, Spaniards, and Germans. In the whaling fleet may be found Lascars, Malays, and a larger number of Kanakas, or natives of the various South Sea Islands. In the whale fishery of Southern New England, a considerable number of men of partial Indian descent may be found, and in the fisheries of the Great Lakes—especially those of Lake Superior and the vicinity of Mackinaw—Indians and Indian half-breeds are employed.

The salmon and other fisheries of Puget Sound are prosecuted chiefly by the aid of Indian fishermen. In Alaska, where the population depends almost entirely upon the fisheries for support, the head of every family is a professional fisherman, and, upon a very low estimate, one-fourth of the inhabitants of Alaska should be considered as fishermen. Few of them catch fish for the use of others than their own immediate dependents. Only one Chinaman has, as yet, enrolled himself among the fishermen of the Atlantic coast, but in California and Oregon there are about 4,000 of these men, all of whom, excepting about 300, are employed as factory hands in the salmon canneries of the Sacramento and Columbia basins. The 300 who have the right to be classed among the actual fishermen, live for the most part in California, and the product of their industry is, to a very great extent, exported to China; although they supply the local demands of their countrymen resident on the Pacific coast.

The negro element in the fishing population is somewhat extensive. We have no means of ascertaining how many of this race

are included among the native born Americans returned by the census reporters. The shad fisheries of the South are prosecuted chiefly by the use of negro muscle, and probably not less than four or five thousand of these men are employed during the shad and herring season in setting and hauling the seines. The only locality where negroes participate to a large extent in the shore fisheries is Key West, Fla., where the natives of the Bahamas—both negro and white—are considered among the most skillful of the sponge and market fishermen. Negroes are rarely found, however, upon the sea-going fishing vessels of the North. There is not a single negro among the 5,000 fishermen of Gloucester, and their absence on the other fishing vessels of New England is no less noteworthy. There is, however, a considerable sprinkling of negroes among the crews of the whaling vessels of Provinceton and New Bedford, the latter alone reporting over 200. These men are, for the most part, natives of the West India Islands, such as Jamaica and St. Croix, where the American whalers engaging in the Atlantic fishery are accustomed to make harbor for recruiting and enrolling their crews. As a counterpart of the solitary Chinaman engaged in the Atlantic fisheries we hear of a solitary negro on the Pacific coast, a lone fisherman, who sits on the wharf at New Tacoma, Washington Territory, and fishes to supply the local market.

The number of foreign fishermen in the United States, excluding 5,000 negroes, and 8,000 Indians and Esquimaux, who are considered to be native-born citizens, probably does not exceed 10 to 12 per cent. of the total number, as is indicated by the figures which have already been given. Considerably more than one-half of the fishing population of the United States belongs to the Atlantic coast north of the capes of Delaware; of this number at least four-fifths are of English descent. They are by far the most interesting of our fishermen, since to their number belong the 20,000 or more men who may properly be designated the "sailor fishermen" of the United States,—the crews of the trim and enterprising vessels of the sea-going fishing fleet which ought to be the chief pride of

the American marine, and which is of such importance to our country as a training school for mariners, and as a medium through which one of the most valuable food resources of the continent is made available.

Prof. Goode referred to the mental and physical traits of the New England fishermen, their enterprise as shown in their readiness to adopt improved methods, their intelligence and public spirit. He spoke also of the education of the young fishermen, and the injury to good seamanship resulting from the custom of deferring the shipment of boys who formerly entered the business at the age of ten or twelve but who now remain on shore until they are fifteen or sixteen, and have had their perceptive faculties dulled by school training. Reference was made to the morality of the fishermen, the strict observance of the Sabbath to be met with among large classes of them, and the entire absence of ardent spirits on the fishing vessels. The character of their favorite books and newspapers, their amusements, their dialect and their superstitions were discussed. The chief diseases were noted to be dyspepsia and rheumatism. They are, as a rule, long lived, though the fishing population of large ports like Gloucester is decimated by disaster every year or two. The financial profits vary from $1,000 to $100 a year for each man, though sometimes a year's work results solely in an embarrassing burden of debts.

Prof. Mason expressed surprise at the statement made in the paper that the quality of American fishermen was deteriorating, in consequence of the superior educational facilities now enjoyed by the people. Prof. Goode accounted for it by the fact that education tended to deter bright boys from engaging in the business. The paper was further discussed by Dr. Morgan and others.

The second paper was by Major A. M. Hancock, of Maryland, on PREHISTORIC DISCOVERIES IN THE SOUTH OF SPAIN, where he was, for nearly seventeen years, United States consul.

The paper was delivered extemporaneously and illustrated by

maps, charts, and specimens. From a stenographic report the following abstract of the paper has been prepared :

The speaker described certain remarkable prehistoric remains which had been discovered while he was President of the *Prehistoric Society of the South of Spain.*

The first of these were found in a cave which was called the "Cave of the Bats," situated in the neighborhood of Albuñal, between Malaga and Almeria. It is called by that name because when first discovered it was literally filled with bat-guano. This was cleared away, and within were found, first, three skeletons in a sitting posture, the center one of which, that of a woman, having still remaining upon her skull a crown, weighing about 1½ ounces of pure gold, 24 carats fine. She also had on, at the time of her death, a tunic, made of the well known esparto grass, very finely made. The other two were dressed pretty much the same, except that the tunics were made of coarser but sound material.

Farther in were found three more skeletons, one of which had the skull crushed between two stones, indicating, as he supposed, that the man had been executed. Beside him was found an esparto bag containing food carbonized by the atmosphere, and another containing hatchets and arrow-heads, specimens of which were exhibited, and of which he was supposed to be a maker.

At another point in this cave were found twelve skeletons arranged in a semi-circle, one of which occupying a central position was that of a woman having on a hide tunic laced up under the left arm. Each of these skeletons was in a fair state of preservation when found, but on exposure to the air they crumbled to dust.

Still farther internally fifty skeletons were found together, whose character and surroundings indicated that they were warriors. Lying all about them were many stone arrow-heads.

The speaker next described a stone temple, as he called it, being in the nature of an enormous dolmen, or cromlech, situated on the outskirts of the city of Antequera, and known as La Cueva de Mengal.

It is built on an artificial mound, of which there are two others. The structure described is 90 feet long, 14 feet wide at its western end, 18 feet in the center, and at the beginning of the vestibule about 7 feet wide, and about 10 feet high. The five covering stones weigh 450 tons. From the western end to the entrance of the vestibule it is 59 feet, and the vestibule is 31 feet in length.

Immediately in front of this temple is a mountain, called La Peña de los Enamorados, presenting at its summit a perfect figure of the human profile. As all other prehistoric caves of which he had any knowledge faced directly east, his theory of this was that it was not intended as a burial mound, as some supposed, but as a temple of worship, the officiating priest having La Peña de los Enamorados directly in his view.

The stone that covers the western end was estimated to weigh 160 tons. The nearest point from which these huge stones could have been obtained was 18 miles distant, with two rivers intervening.

The speaker also described a plain in the vicinity of Antequera, which is strewn with oyster shells. This plain or basin is about 1,900 hundred feet above the level of the sea. It would seem to have once been inhabited by prehistoric man who lived principally upon oysters and left their shells scattered over the ground.

At the close of his remarks Major Hancock presented the Society with a copy of a work descriptive of these and other archæological remains in the south of Spain entitled Antiqüedades Prehistoricas de Andalucia, etc., Por Don Manuel de Góngora y Martinez. Madrid, 1868; 4to., pp. 158, with 149 figures, plates, and map; also two charts illustrating the profile and form of a dolmen described by Major Hancock, in which were found numerous human and other remains. These were accompanied by two worked flints from the cave and portion of a fossil oyster shell found on the surface of the plain, the latter appearing to consist chiefly of such shells, and having a height of 1,900 feet above sea level.

FORTY-THIRD REGULAR MEETING, October 4, 1881.

Rev. J. Owen Dorsey read a translation, made by himself, of an Omaha myth, entitled THE ORPHAN AND THE BUFFALO WOMAN. The following is an abstract:

Wahandhishige, the orphan, lived with his married sister, who was unkind to him. She never allowed him to eat any choice piece of meat, although her husband was a good hunter and brought plenty of game to the lodge. A buffalo woman visited the orphan when he was alone in the lodge, and made him eat some of the meat, restoring the piece from which it had been cut to its proper shape. This occurrence was repeated on three other days. Then the orphan followed the woman, overtaking her by evening at a white lodge on the prairie. While he slept the woman and lodge disappeared, and when he awoke he was lying on the grass. This happened on four days in succession. The myth then gives: 1st, The adventures of the woman, after parting with the orphan; 2d, The adventures of the orphan when in pursuit of the woman. In the first part is told the birth of her child, the white calf, (some say two calves;) his abduction by Ishtinike, the deceiver; his escape and return to his mother. Then follow the adventures of the orphan, showing how he overcame great difficulties that were destined to hinder his pursuit; how he crossed the great water, a deep canon, a tract of land, covered with briers and thorns; and how he went even to the upper world. Returning from the upper world he killed a number of the buffaloes; then he took his family to his old home. He discovered himself to his unkind sister and her husband, who had been unfortunate since the departure of the orphan. They received him and his family, and were rewarded by the return of game and consequent prosperity. The sister profited by experience, and was ever thereafter kind to her brother and his family.

The President of the Society read a paper on the MYTHS OF THE WINTUNS OF THE SACRAMENTO VALLEY.[1]

[1] This paper will be published in a much enlarged form in the "Annual Report of the Bureau of Ethnology."

In reply to an inquiry by Prof. Mason, Major Powell enumerated certain tribes of Indians that bury their dead by clans.

Mr. Hinman stated that this was not the case with the Dakotas.

Prof. Mason remarked that he had discovered in the myths related by Mr. Dorsey and Major Powell a material substratum to the mythical; that is, the myth seemed to account for the origin of inexplicable phenomena, by means of things no longer regarded as mythical.

Major Powell replied that this idea proceeded from a misunderstanding of the nature of Indian philosophy. With savages the production of effects at a distance from the cause does not require the intervention of a material medium. He reviewed the progress of the conception of wind through the different grades of social progress, as seen in the Norse, the Greek, and the later mythologies.

In reply to a question by Mr. Guss, he stated that he presumed the order in which the different animals were slain by the boy prodigy as he grew older correctly represented the degrees of difficultness with which the Indians regard the capture of these animals; the eagle, which was the last named, being taken by them only with great skill.

FORTY-FOURTH REGULAR MEETING, October 18, 1881.

Mr. S. D. Hinman read a paper on THE STONE GOD, OR ORACLE, OF THE PUTETEMNI BAND OF HUNKPATI DAKOTAS.

This oracle was seen by him while on an expedition with some Dakotan Indians across the James River Valley, in Dakota Territory. A Hunkpati man of the party gave the history of the stone, and an account of its miraculous movement from the Sacred Hill to the old dirt lodge village. This story Mr. Hinman related. He then explained what the Dakota stone god is and the worship paid to it. It was then shown from old papers preserved by the Massachusetts Historical Society that this worship was probably

identical in many Indian tribes. The Oneida stone was described as an illustration, and others were given which were formerly well-known in New England and New York.

The paper closed with a description of the standing rock in Dakota Territory, and the legend of that rock was related.

Mr. Guss spoke of the Oneida stone. He said that the word Oneida meant people of the red granite stone. It was the tradition that the Oneidas came out of the ground on that spot, though they believed in a sort of transmigration of souls. He also mentioned similar myths among Iroquois tribes clustering about the idea of a standing stone, and remarked that the words Juniata and Oneida were only corruptions of the same word.

Col. Mallery then read a paper on the DANGERS OF SYMBOLIC INTERPRETATION.[1] The following is an abstract of the paper:

Few writers on the pictographs, customs, or religious rites of the North American Indians have successfully resisted the temptation to connect them symbolically with those of certain peoples of the Eastern Hemisphere. The Spanish priests found among the Mexicans many delineations of the cross and serpent which satisfactorily proved to them the former introduction of christianity; Adair delighted to show the existence of Israelite ceremonials among the Muskoki; and Lafiteau traced the customs of the Iroquois to the pre-Hellenic inhabitants of Greece. Schoolcraft is full of symbols of a more abstract and supposed original character, such as *power*, *deity*, and *prophesy*. The frequent recurrence on this continent of the number *four* has become a new mine of treasure to writers infatuated with the mysticism of numbers. Alphabets, Runic, Akkad, Phœnician, and of all other imaginable origins, have been distorted from the Dighton Rock and multitudinous later precious "finds," while other inscriptions are photographed and lectured upon to exhibit the profound knowledge by some race supposed sometime to have existed in North America, in the arbitrary

[1] This paper was in part repeated under the title "Spurious Symbolism," in "International Review," Vol. XII, pp. 45–52.

constellations of astronomy and zodiacal signs now in current use. Our learned associations are invaded by monomaniacs, harmless, save for their occupation of valuable time, who show that every ancient cisatlantic object means something different from what is obvious to common sense, and their researches are gratified by frauds and forgeries, sometimes originating in mischief and sometimes in desire for gain.

The speaker then gave, at some length, the account of an attempt, fortunately not successful, of an apparently honest enthusiast to compromise the American Association for the Advancement of Science at its late session in Cincinnati.

Such fanciful and misleading theories and statements require a note of warning.

In examining the subject it seems proper to establish the precise relation between signs and symbols. Those terms are often used interchangeably, but with liability to misconstruction, as most persons, whether with right or wrcng lexical definition, ascribe to symbols an occult and mystic significance.

A *sign* is the most general—that by which anything is made known or represented. A symbol has been defined as the sign of something moral or intellectual by the images or properties of natural objects; but that would include an emblem in which, by a figure of thought, corporeal objects stand for moral and intellectual qualities, and a symbol should be distinguished as that species of emblem which is a constituted sign among men of such qualities.

An alphabet, or scheme of signs by which a language is written, is not in its essence symbolical, and the Semitic scheme, the parent, notwithstanding the wide diversity of languages, of nearly all the graphic systems prevailing in the world, had not even its origin in symbols. The first step toward writing was the rude pictorial representation of objects without indication of any accessories, followed by application of symbolic meaning to some of the figures most used and known, and some pictures, more and more abbreviated, also gradually became conventional signs, which, in time,

were made to stand for sounds either syllabic or alphabetic. So the growth of symbols and phonetic characters, nearly related but quite distinct, proceeded simultaneously with increasing divarication. Most ancient writing was, indeed, hieroglyphic; that is, a record made by one ignorant of, or unwilling to use, a phonetic method, but hieroglyphs dealt more in ideographic signs, representing objects by simply imitating their forms, than in those purely symbolic, which indicated their nature or properties.

It is true that the letters of an alphabet may, like an infinity of other objects, be adopted as symbols. In the science of algebra it was convenient to represent known quantities by the first, and unknown by the concluding letters of our alphabet, so that, in time, *A* was considered a symbol of the fixed, or certain, and *X* of the doubtful, or mutable. This is not criticised while the application is limited and its wholly arbitrary nature borne in mind; but suppose some ardent algebraist and symbolist should insist that the significance of these symbols was intrinsic to the letters, or even suggested from their form: "Observe," he might say, "the very frame of A, a pyramid standing on its base, the embodiment of solidity, still further strengthened by a cross brace! of course it must signify the fixed and certain! And X, two bars only united at a middle point, top, base and sides nearly equal, and thus liable to be deflected readily to any position, perhaps an image of the spokes of a wheel never at rest, surely it is the vague, the unknown!" This *reductio ad absurdum* is not more obvious than many cases where symbols are manufactured and misapplied by enthusiasts.

Volumes have been devoted to the symbolism in the arbitrary signs used in arithmetical notation. The decimal system prevailed only because the human race rejoices in ten figures for ready objective exhibit, and not some other digital allowance, and after the expedients of notches in wood, bags of stones, strings of shells, and the like, when the Hebrews and Greeks acquired the notion of representing number by characters, they employed the letters of the alphabets already in their possession. Our more convenient

notation came through the Arabs, who, about the 10th century, obtained it from Hindostan (where, it is asserted, the figures were anciently the initial letters of the Sanscrit names for the digits), and has rendered easy those calculations and deductions which display many curious properties of, and relations between, numbers. But it behooves to distinguish the ideas elucidated through mathematical experiments from the mere signs or value of the notation—that is, the apparatus—so that the latter may not claim a retroactive significance.

Many of the curious and often beautiful results from combination of numbers have, on close examination, no more intrinsic import than the also curious and beautiful reflections produced by turning a kaleidoscope, and dependent on much the same principles of mathematical relations between quantities and magnitudes.

Devotees of symbolism, in their undue zealotry, seem to have pried about with a *number* in their hands, determined to fit it into some object, like trying a stray key to all accessible locks. A not very ancient work set forth, among other attributes, of the number 7, with much flourish, that there are *seven* planets and *seven* metals, which, indeed, was the limit then known, but we now recognize at least fifty metals, and the planets have also increased on acquaintance apart from the asteriods, which, at the present rate of discovery, may soon swell the list to two hundred.

Belief in the mysticism of numbers has often retarded scientific research. Huygens, in 1655, discovered a satellite of Saturn. He then stopped observations because the six planets (Saturn then being the oldest known planet) and the six satellites, one of the earth, four of Jupiter, and that one of Saturn made the *perfect number* of twelve. So he asserted solemnly that nothing more of planetary system was left to be discovered. This blunder warns us not to build symbols needlessly on the shifting sands of ignorance, to be demolished by the advancing ocean-wave of science.

Symbols that have once reigned with perfect title may degenerate into petty signs. The chevron, an honorable ordinary in heraldry,

representing two rafters of a house united at the top, was originally bestowed on the founder of a house or family thereafter entitled to bear arms, and in that use was a perfect symbol. When the modern army uniform was planned the facility of forming an obtuse angle by two strips of cloth led to the selection, from among all the heraldic blazonry, of the chevron to mark the sleeves of non-commissioned officers; so that, while retaining both its name and form, its purport wholly disappeared.

The initial character of medical prescriptions met a fate still more humiliating; once portraying the extended wings of Jove's eagle and used as a prayer to the king of gods for his aid to the action of the remedy, its very shape was corrupted until, resembling the letter R with a flourish, [℞] it is vulgarly called an abbreviation of the word "Recipe." So, though once a sublime symbol, it has ceased to be even a respectable sign.

The barber's pole, in the middle of its history, *was*, perhaps, a symbol, having started as an honest, though prosaic sign, and ends, in this country at least, as one neither appropriate nor sensible. The bloody band used by barber chirurgeons in their phlebotomy, wrapped, for convenience, spirally around a supporting rod, was, in the last century, still found in some Old World nooks, and when that utensil was exhibited in front of the shop it signified "bleeding done here," just as the old boot the cobbler hangs over his door is the advertisement of his humble calling. When the red band was painted on the contrasting white ground of a pole, and the tonsor only drew blood by accident instead of by profession, the device might claim some symbolic dignity, but the blue stripe was lately added in the United States; so that, in the combination of colors now shown, a fanciful physiologist may detect the distinction between venous and arterial blood, and the more poetic and religious mind may be exalted to suggestions embracing the ark of the covenant. Now, the change, under my personal observation, has occurred from the enterprise of some patriotic barbers who added blue to the red and white so as to include all the national colors,

and the fashion, once set to the imitative race which mainly does our shaving, has lately advanced another step, so that their newest poles show the blue in a union, with the proper arrangement of stars, and the red and white stripes extending straight instead of spirally, becoming nothing more nor less than a wooden United States flag of clumsy shape.

In the examination of pictographs and of sign languages as nearly connected with them, it is important to form a still more explicit distinction between signs proper and symbols. All characters in Indian picture writing have been loosely styled symbols, and as there is no logical distinction between the characters impressed with enduring form and when merely outlined in the ambient air, all Indian gestures, motions, and attitudes might with equal appropriateness be called symbolic. While, however, all symbols come under the generic head of signs, very few signs are in accurate classification symbols. Symbols are less obvious and more artificial than mere signs, require convention, are not only abstract, but metaphysical, and often need explanation from history, religion, and customs. They do not depict but suggest subjects; do not speak directly through the eye to the intelligence, but presuppose in the mind knowledge of an event or fact which the sign recalls. The symbols of the ark, dove, olive branch, and rainbow would be wholly meaningless to people unfamiliar with the Mosaic or some similar cosmology, as would be the cross and the crescent to those ignorant of history. The last named objects appeared in the class of *emblems* when used in designating the conflicting powers of Christendom and Islamism. Emblems do not necessarily require any analogy between the objects representing, and the objects or qualities represented, but may arise from pure accident. After a scurrilous jest the beggar's wallet became the emblem of the confederated nobles, the Gueux, of the Netherlands; and a sling, in the early minority of Louis XIV., was adopted by the Frondeur opponents of Mazarin, from the refrain of a song. The portraiture of a fish, used, especially by the early Christians, for the name and

title of Jesus Christ was still more accidental, being, in the Greek word ἰχθύς, an acrostic composed of the initials of the several Greek words signifying that name and title. The origin being unknown to persons whose religious enthusiasm was as usual in direct proportion to their ignorance, they expended much rhetoric to prove that there was some true symbolic relation between an actual fish and the Saviour of men. Apart from this misapplication, the fish undoubtedly became an emblem of Christ and of Christianity, appearing frequently on the Roman catacombs, and at one time it was used hermeneutically.

The several tribal signs for the Sioux, Arapaho, Cheyenne, &c., are their emblems precisely as the star-spangled flag is that of the United States, but there is nothing symbolic in any of them. So the signs for individual chiefs, when not merely translations of their names, are emblematic of their family totems or personal distinctions, and are no more symbols than are the distinctive shoulder-straps of army officers. The *crux ansata* and the circle formed by a snake biting its tail are symbols; but *consensus* as well as invention was necessary for their establishment, and the Indians have produced nothing so esoteric, nothing which they intended for hermeneutic as distinct from descriptive or mnemonic purposes. Both picture writing and sign language can undoubtedly be and are employed to express highly metaphysical ideas, but to do that in a symbolic system requires a development of the mode of expression consequent upon a similar development of the mental idiocrasy of the gesturers far beyond any yet found among historic tribes north of Mexico. A very few of their signs may at first appear to be symbolic, yet even those on closer examination will probably be relegated to the class of emblems.

The point urged is that while many signs can be used as emblems and both signs and emblems can be converted by convention into symbols or be explained as such by perverted ingenuity, it is futile to seek for that form of psychologic exuberance in the stage of development attained by the tribes now under consideration. All

predetermination to interpret either their signs or their pictographs on the principles of symbolism as understood or pretended to be understood by its admirers, and as are sometimes properly applied to Egyptian hieroglyphs, results in mooning mysticism. This was shown by a correspondent who enthusiastically lauded the *Dakota Calendar* (which is a mere figuration of successive occurrences in the history of the people), as a numerical exposition of the great doctrines of the Sun religion in the equations of time, and proved to his own satisfaction that our Indians preserved hermeneutically the lost geometric cultus of pre-Cushite scientists. He might as well have claimed it to be the tabulated dynasties of pre-Adamite kings. The chart was exhibited with the true interpretation compared with the symbolic read from the letter.

Another exhibition of this vicious practice was recently made in the interpretation of an inscribed stone alleged to have been unearthed near Zanesville, Ohio, an engraving of which was exhibited. Two of the characters were supposed, in liberal exercise of the imagination, to represent the *A* and Ω of the Greek alphabet. At the comparatively late date when the arbitrary arrangement of the letters of that alphabet had become fixed, the initial and concluding letters might readily have been used to represent respectfully the beginning and the end of any series or number of things, and this figure of speech was employed in the book of Revelations. In the attempted interpretation of the inscription mentioned, which was hawked about to many scientific bodies, and published over the whole country, the supposed alpha and omega were assumed to constitute a universal as well as sacred symbol for the everlasting Creator. The usual *menu* of Roman feasts, commencing with eggs and ending with apples, was also commonly known at the time when the book of Revelations was written, and the phrase "*ab ovo usque ad mala*" was as appropriate as "from alpha to omega" to express "from the beginning to the end." In deciphering the stone it would, therefore, be as correct in principle to take one of its oval and one of its round figures,

call them egg and apple, and make them the symbols of eternity. In fact, not depending wholly for significance upon the order of courses of a feast or the accident of alphabetical position, but having intrinsic characteristics in reference to the origin and fruition of life, the egg and apple translation would be more acceptable to the general judgment, and it is recommended to enthusiasts who insist on finding symbols where none exist.

Mr. Bigelow called attention to Fig. 71 of the chronological chart of the Sioux Indians used in illustrating the paper, and noted its resemblance to the ornamentations on Indian blankets.

Mr. Ward raised the question whether the letter, read by Col. Mallery, on the symbolic interpretation of this chart, might not have been intended as a burlesque.

Col. Mallery stated that it bore every mark of sincerity and genuineness.

Prof. Mason spoke of the growing prevalence of this school of symbolic interpretation, especially in Europe.

Mr. Ward inquired whether the recent attempts to explain the origin of the Arabic numerals as a modification of straight lines rested on any authentic basis.

Col. Mallery thought it did not.

FORTY-FIFTH REGULAR MEETING, November 1, 1881.

Dr. Edward M. Gallaudet, President of the National Deaf-Mute College, read a paper entitled HOW SHALL THE DEAF BE EDUCATED?[1] The following is an abstract of the paper:

A suitable classification is important to a proper consideration of the question.

The *class* should be spoken of as *the deaf*. The term deaf-mute should be applied to such only as are totally deaf and completely dumb.

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[1] Published in full in the "International Review," Vol. XI (December, 1881,) pp. 503–516.

Besides this sub-class, there are the *speaking-deaf*, the *semi-speaking deaf*, the *speaking semi-deaf*, the *mute semi-deaf*, the *hearing-mute*, and the *hearing semi-mute*, these two last sub-classes being, usually, persons of feeble mental power.

With a class involving such essential differences among its sub-classes and orders, no single method can be expected to be successful.

The first requisite in the instruction of the deaf, as in all teaching, is the establishment of a ready and adequate means of communication between teacher and pupil.

The natural language of the deaf, is beyond all question, the language of signs and gestures. But experiment has proved that many deaf persons, including not a few congenitally deaf, may be taught to speak, orally, and to understand what is said by others, from the movement of their vocal organs.

The value of the power of speech is so great, that many have insisted that *all* deaf persons can, and must be taught to speak.

To suppose that all can be taught to speak well is an error.

Many deaf persons are lacking in imitative power, in their power over the muscles of their vocal organs, in their power of vision, and in other particulars, which make it impossible for them to attain success in speech.

For them it is the wise course to forego all effort to impart speech, and give them education through the use of signs, the manual alphabet, and writing.

Experience has abundantly proven that deaf persons so educated, may lead happy and useful lives, mingling readily with hearing and speaking people.

It is recommended that in all cases where success seems probable attempts be made to teach the deaf to speak; that where it is practicable special schools for oral teaching should be maintained; that in all institutions for the education of the deaf articulation should receive attention; that the manual alphabet should be used in all schools for the deaf, and that signs should be made use of

even in oral schools, especially with advanced pupils, as a means of conveying instruction in the form of lectures.

Col. Mallery spoke of the capability of sign language to express abstract and abstruse ideas, and remarked that Mr. Edward B. Tylor had maintained that it was incapable of such expression, while Max Müller claimed that these ideas were all derived from sensuous ones. Mr. Tylor had given as examples of conceptions not capable of being conveyed by signs, those of *momentum* and *plurality*. He asked how this was.

President Gallaudet replied that for the conveyance of abstract ideas, a certain amount of explanation in simpler terms was usually necessary, but to say that abstract ideas, such as those of momentum and plurality, could not be conveyed by signs, would simply provoke a smile from any practical teacher of the deaf and dumb.

Dr. Fletcher inquired what proportion of deaf-mutes are found capable of acquiring the power of oral speech.

President Gallaudet replied that this differed with the language, the Italian being easiest to acquire, and that between one-third and one-half the pupils could learn to speak it. With the English the statistics did not cover a sufficiently long period to deduce the proportion accurately, but he thought it would be about one-third. In reply to the further question relative to the children of the deaf and dumb lady whose letter he had read, he stated that they were all normal, and remarked upon the small tendency of deafness to descend to the offspring even of parents who are both afflicted.

Dr. Hoffman mentioned two deaf Indian children whom he knew, and who seemed incapable of acquiring the sign language of the tribe.

President Gallaudet could explain it only on the assumption that they were mentally deficient.

Prof. Mason asked how far are we acquainted with the history of the movement for the education of the deaf in different nations, as Chinese, Japanese, etc.

Col. Mallery said they were classed by Constantine with the insane.

President Gallaudet stated that no extended history of the matter for the whole world existed. He had once undertaken such a work but had been compelled by other duties to suspend it. He said that records on the subject, in Europe, date back four or five centuries, and schools had existed in France, Germany, and Italy for one hundred and fifty years. He was certain no such institutions existed in China. Japan has two small schools. He was invited, in 1867, to go to China and establish a school, and had accepted the invitation, when the rebellion broke out there and put an end to the scheme.

Dr. Welling desired to learn in what sense deaf-mutes are capable of receiving and expressing ideas of the higher class; whether deafness was a bar to the intellectual acquirements made by other persons.

President Gallaudet replied that it interposes no obstacle to mental development, except that connected with acoustics. He had even questioned whether it did not tend to quicken thought by the forced absence it imposes of the multiform distractions which enter other people's minds through the ear.

In reply to Mr. Bigelow's question, whether the mere jar produced by some sounds did not furnish a sort of substitute for hearing in some cases, he said that this was simply feeling and not hearing, and that deaf people were able to make some use of it.

Mr. Gilbert inquired whether there was a universal system of signs, so that deaf-mutes of all nationalities could understand one another.

President Gallaudet said that this was the nature of the true sign language, but that besides this, special arbitrary signs were used by different schools; there was also an alphabetic language, and this he regarded as really the most complete system. He spoke of lip-reading, and said that Prof. Bell was now preparing a list of words of different meaning and spelling, but requiring the same position of the lips (*homophemes*).

Dr. Welling asked if sign language did not convey ideas to deaf persons more directly and impressively than oral language.

President Gallaudet said that it certainly did, but only certain kinds of ideas. He spoke of the superiority of the sign language in large classes or where a great number of persons are addressed.

Dr. Hoffman mentioned the meeting of the Ute Indians with the deaf-mutes at the National Deaf-Mute College, and said that they were able to carry on a free interchange of ideas, showing that the syntax was identical.

Dr. Fletcher inquired whether the presence of a beard or moustache was not a serious obstacle to lip-reading. President Gallaudet replied that it was a part of the regular course of instruction to accustom the pupil to the beard and mustache, and some became so expert that they could understand even when the hand was held over the mouth and lips, by observing the peculiar action of the other parts of the face, the eyes, head, etc.

Mr. Ward asked if any data existed for determining whether educated deaf-mutes, as a class, had contributed their share to the intellectual work of the world, and mentioned the case of Mr. Leo Lesquereux, the well-known vegetable paleontologist. He said that, considering how small the class is, it would not, of course, require a very great absolute number to constitute its quota.

President Gallaudet thought that it had done so, and instanced a number of deaf persons, of greater or less distinction in one way or another, among them John Kitto, Charlotte Elizabeth, Ferd. Berthier, and two brothers Moore, of Hoboken, embracing various professions, authorship, and art. He further remarked that, of the graduates from the National Deaf-Mute College, one had become a successful patent lawyer and another an editor.

Mr. Henry Baker spoke of Mr. Parkinson, the patent lawyer referred to, testified to his intelligence and business ability, and said that the degree of master of arts had been conferred upon him.

Mr. Ward said he thought the facts showed that the art of communicating ideas was a necessary result of the possession of ideas

to communicate, and depended less than was commonly supposed upon the possession of the faculty of oral speech. He expressed his belief that if the human race, all other things being as they are, had been destitute of that faculty they would have nevertheless found means of carrying on the various functions of civilized society very nearly the same as they now do.

FORTY-SIXTH REGULAR MEETING, November 15, 1881.

Mr. R. L. Packard read a paper reciting A NAVAJO MYTH. The following is an epitome of the myth:

The story in brief is that the Navajos first appeared as certain animals, in a world under the earth we inhabit. There they lived a long time, under the rule of twelve chiefs, one of whom was the head chief. In consequence of the discovery of the infidelity of the wife of this chief, an absolute separation of the sexes throughout the tribe was effected, by the males crossing a large river, which flowed near the camp. The two sexes lived apart four years, at the end of which time many females had died, and the rest were threatened with starvation, so that a reunion of the males and females was made necessary. After this had been effected a water monster, which lived in the great water near which the people were camped, was robbed of its young by Coyote; the evening of the same day the water began to rise and caused a flood, which drove all the people up to a high mountain; and the water still rising, they planted a reed on the top of the mountain and fled to its interior for safety. This reed grew rapidly and carried them to the upper earth, which Badger was sent forth to explore. His report was that the upper earth was covered by a sea, like the one which had driven the people up the mountain below; and that there were four swans at the four corners, viz., the north, east, south, and west corners of this sea, with whom he had had a combat; he and Cicada vanquished the swans and the people came to the upper earth, through the hole he had made, and took possession of the

whole region; their wise men and medicine men (priests) made the sun, moon, and stars (for it was as yet dark) after four days experiment; and one of the medicine men went with the sun to regulate its movements and he was never afterwards seen, but continues with the sun to this day.

A similar wise or magic man, but of the Zuñis, went with the moon.

After this they planted the seeds of trees and vegetation in general, which they had brought up with them.

After increasing to a great number, a conflagration destroyed all but a few of the people; and after this remnant had again increased to a large number, certain monstrous animals and a giant in human form came and devoured all but one male and one female. This female found a female child at the foot of a rainbow one day, which she took home and raised as her daughter. In due time this child, having grown to maturity, became the mother of two male children by the sun. These children were infants in arms four days; after which they were able to run about four more days; and at the end of this period they were men grown.

On reaching manhood they asked their mother about their father; and being by her instructed, set off on a long journey to visit their father, whose house they found far away in the East; after an interview with him they returned, journeying with their father in his daily course in the heavens, to their own country; and by his assistance, killed the various monsters which had devoured their people.

Under instructions from their father they consulted their mother about re-peopling the earth; and she, by magic, made one male and one female in human shape; and this pair was the source of nearly all the Navajos.

This woman went then to a great ocean in the West, where she still lives; and she and the sun-man are the deities which are reverenced by the Navajos.

The story is localized by the introduction of the names of moun-

tains, etc., in the Navajo country, where the events are supposed to have occurred, and was obtained from a half-breed Navajo, aided by an old man of the tribe.

Mr. Gatschet remarked that the myth seemed to be a compound of numerous traditional legends, and showed how a number of the events recited might be allegorically interpreted; *e. g.*, the separation of the men from the women probably represented the division of day and night. The giant he thought was emblematic of the sun.

Prof. Mason expressed surprise that no connection could be traced between these Navajo myths and the *Tinnêe* myths, notwithstanding the certainty that the Navajos had migrated from British America within comparatively recent times, and spoke of the rapidity with which myths grow.

Dr. Hoffman asked if certain parts had not been omitted from the myth as read.

Mr. Packard replied that he had tried to embrace all the essential parts.

Col. Mallery spoke of the analogy between principal occurrences described in the Navajo myth with those contained in the myths of other peoples; as for example, that of the separation of the sexes with the story of the Amazons; the rising of the waters with the wide-spread tradition of a deluge; and the occupation of the reed with the fable of Jack and the bean-stalk. He also called attention to the usual predominance of the number four.

Prof. J. Howard Gore then presented a communication on the Regulative System of the Zuñis. The following is an abstract:

Zuñi is situated in the western part of New Mexico, 12 miles from Arizona and about 250 miles southwest of Santa Fé. It is built of adobe; the houses are contiguous, and in some places cover the irregular streets, thus uniting the whole town into three single buildings.

The subsistence of the people is derived from herds of sheep and goats and from the soil. The minor crops are grown near the

town, while their corn fields are at Pescado, and the wheat is raised at Mutria. The men plant and cultivate the crops and the women gather, garner, and prepare the grain for use.

The women receive more attention here than is usual among Indians.

The clan organization is for a triple purpose: to determine the line of marriage, for social amusement, and for religious observances. Descent is in the female line. Monogamy exists. Divorces are readily obtained, and are unattended by reproach, but are by no means common.

In order to be a member of the religious order—the Priests of the Bow—it is necessary to secure a scalp and undergo a number of ordeals. The election of a person into this order is confirmed by a great feast. All persons charged with murder are tried by this order. The accused conducts his own case, and a member is appointed to manage the prosecution. The decision is reached in secret council and the verdict made known afterwards. If guilty the criminal is executed privately.

Property is exclusively individual, and can be disposed of by the owner without consulting any one. Children may own property—even land. The property of a man dying intestate descends to his own children; but at any time prior to his death he may name his heirs. Seven caciques and one priestess constitute the supreme ecclesiastical tribunal, to whom all disputes and doubted points in religious or ceremonial matters are referred. A governor is the chief civil authority; he decides all minor questions himself, and only summons a council when the importance of the case demands it. In council no formal vote is taken; each person so expresses his opinion that the will of the majority is easily made known. Women have no voice in the councils.

Prof. Mason inquired whether differences of social standing regulated the occupancy of the Pueblo houses. Prof. Gore said that this did not seem to be the case. The Priest of the Sun lives

in the upper house, fourth terráce, while in other cases the wealthier classes usually live on the first story. The Governor's house was not by any means in the finest quarter of the town.

Mr. Bigelow asked whether the Zuñis make formal wills, and also how children are cared for.

Prof. Gore replied that wills were merely verbal, and that the wish of the deceased, however expressed, was conformed to whenever it was known. He was conversant with one contested will case. He also stated that in their anomalous marriage relations it did not always fall to the parents to take care of their own children.

Mr. Gatschet spoke of an annual festivity celebrated on Mt. Taylor, near Zuñi. He also inquired whether the usual division into gentes and phratries prevailed, and relative to the clans spoken of, whether they attempt to prove their origin.

Prof. Gore said there were fifteen clans among the Zuñis, which are organized chiefly for amusement and social intercourse, but were permanent and of very ancient origin. These have no connection with the usual division of the people into gentes. The gens merely determines the line of marriage; all must marry without their gentes. Descent was in the female line. He then spoke of the various ceremonies of the different clans, and gave a detailed account of a feast of the Corn-clan which he witnessed. He said that the music was sung in a language to a great extent unintelligible to living Zuñis, and which seemed to be a sort of sacred or classic tongue handed down from remote antiquity, which no one dared to change.

In reply to a question by Mr. Gilbert, he said this language somewhat resembled the present Zuñi language, but seemed to be a sacerdotal, archaic form of it.

Prof. Mason said that the Creeks and Choctaws also have an oratorical language having an elevated diction for state occasions.

FORTY-SEVENTH REGULAR MEETING, December 6, 1881.

Mr. M. B. W. Hough read a paper entitled A QUESTION IN CLASSIFICATION, of which the following is an abstract:

Classification is made possible by the persistence of inherited peculiarities, while it is rendered necessary by the diversities of such peculiarities which meet us daily in the street. It proceeds upon the present condition of affairs, but many considerations must enter any discussion of the subject.

Races of men are described by color, habitation, and by families. The last is the true method, but each observer has his own theory.

The proportionate diameter of the skull when measured laterally and longitudinarily, and the contents of the brain in cubic inches are also favorite methods. Men have also been divided into two species by the position of the nostrils, whether close together or wide apart.

The angle between lines drawn from the forehead and the base of the brain, meeting at the front of the upper jaw, and the relative prominence of the jaws compared with the forehead and the chin, is used for the same purpose, and seem to be persistent. A division founded on the cross section of the hair seems incisive, but must, it would seem, yield to some, as yet, unrecognized distinction, which shall divide men into two families of races.

The diversities of the individuals who compose these classes, when each is taken as a whole, are manifold. One class delights in repose, is ruled by desires and acts from impulse; the other delights in action, is ruled by ideas and acts from motive; one is patient under restraint and satisfied with material comfort; the other is ambitious of improvement and impatient of control. Anatomical differences are well known to specialists: one class has less muscular development and more protruding mouth; it has also more flattened and scanty hair, accompanied by larger and more active perspiratory glands, whether these facts are related or not. The feet are less arched, arms longer, legs weaker, chests shallower,

and complexion darker; and in culture, one class is behind the other.

There are difficulties in the application of so simple a theory, and the object of this paper is to ask where the line is to be drawn.

That there have been vast changes in existing climates and in the present distribution of land and water is unquestioned; with corresponding effects, if not on the dispersal and variation of humanity, at least on all then existing organic life.

But we know that man has existed on the earth for a long period of time, and has moved from one place to another, as he does in the present and will do in the future, from the same motives. Whenever the Glacial Epoch occurred, as ice disappeared from Western Europe, man was there. And this is a significant fact, when connected with the other fact, that many northern forms of animals and plants are found in the further south, while no southern forms have invaded the north; which opens space for momentous speculations as to the original location of man. If his northern origin is inconsistent with preconceived opinions, may he not, early in his life as a species, have been separated into two divisions, one being led north, the other south. If so, owing to permanent geographical causes, those who went south encountered less variety of condition than the other. Be this as it may, we see all over the world reminders of the migrations of men, and the emigrants, who usually occupy the more fertile and inviting regions, whenever comparison is possible, seem to have improved on their kindred who were left at home.

Is there such a division—one class embracing races of southern origin, the other those who have arisen in colder climates, and when found in southern latitudes are referred to the north? The line of such division seems widened at its boundaries, but this widening is due to mixture of blood, which is shown in the blending and fusion of the characteristics of each class.

Here arises the difficulty in the application of the theory—certain people, by many qualities, belong to one class; in others, as clearly

resemble the other. This is the case with the natives of Australia, who, resembling the one class in most if not all other things and in mental and social condition, have the wavy hair, full beard, and sharp sight of the other—where shall they be classed? They have no history or traditions, have never cultivated food-crops, clothed themselves, or had permanent dwellings, and it is questioned whether they knew the use of fire. Their appearance is analogous to many races of animals and plants found on islands, similar to those found on far off continents, yet specifically distinct, from which long isolation is inferred. This seems, by its fossils, to be true of the animals, and may well be true of the men of Australia. They are also the only people, apparently, of the southern class who have lived for ages in a temperate climate, and also who have hair but slightly curled. Some writers derive them from the Non-Aryan tribes of India, but as these are cultured—they all cultivate food-crops, have dwellings, clothe themselves, and use fire, arts that could not well be lost—and as emigrants usually take purpose and knowledge with them, it seems that any such recent resemblances would be more reasonably accounted for by reversing the course of the hypothetical migration.

Resemblances in language must be cautiously used in tracing relationship, as will be seen in the known origin of the so called Latin Nations of Europe.

While upon such separation as has been suggested, one portion went in one direction and the other in another, each would be soon modified by changed conditions, and would divide into clans, tribes, nations, and races; each class retaining the common as well as class characteristics. No special reference is made to American ethnology, for whether its pre-historic races are of single, or as is likely, of three-fold origin, they are all referred to northern sources.

The earlier relics of our kind show indices of the same grade of culture; so the farther back we go in the line of descent the more likenesses are found in people who seem widely separated in habita-

tion and apparently in blood. This fact explains many things which seem to be contradictory.

All this is general, but illustration and application are not far to seek. That the key to distinctions between classes, as well as races, is to be found in the bodily frame, and is now in the hands of those who study it, is, I believe, beyond doubt. Will somebody learn to use it?

Upon this communication Mr. Ward remarked that he had been struck by the analogy which it suggested between the geographical distribution of the human races and that of the lower animals and of plants. It seemed that in the one case as well as in the other the physically inferior types predominated in the southern hemisphere, and particularly in South America and Australia. Africa, however, constituted an exception, so far as animals and plants were concerned, and he raised the question whether this might not be due to the fact that geologically that continent properly belongs with Europe and Asia, with which it was connected until quite recent times, and whether the size of land areas did not have something to do with the degree of development made by the life inhabiting them; he also queried further whether this might not be in turn due to the relative length of time during which such development has been going on, presuming that it might have begun much earlier on the great northeastern continent. He spoke of the oft-repeated remark made by geologists and naturalists that America is really the Old World, and said that, in so far as life at least was concerned, the reverse must be the case, if, by the age of a fauna is meant the length of time it has been developing, as measured by the degree of advancement attained. From that point of view Australia would be the youngest continent, after which would follow South America, then North America, making the Old World in fact old zoologically and phytologically as well as anthropologically. That the human races, notwithstanding their superior migratory power, had retained certain of the same geographical peculiarities that characterize the lower forms of life, he thought quite probable.

Prof. Otis T. Mason then read a paper on THE DEFINITION OF ANTHROPOLOGY AND ITS SUB-DIVISIONS.[1]

A running discussion followed upon the various terms adapted to the classification of the phenomena of anthropology.

FORTY-EIGHTH REGULAR MEETING, December 20, 1881.

Mr. Lester F. Ward read a paper entitled THE ANTHROPOCENTRIC THEORY.[2] The following is an abstract:

The aim of the paper was to bring together into something like logical order a few of the more salient facts which have been cited in favor of and against the belief in the existence of a beneficent agency in nature, more especially as operating in the direction of the welfare and advantage of man, considered as the end toward which the various processes of the universe have tended. These statements of fact were accompanied by such explanations, qualifications, and other comments as seemed necessary to secure their proper appreciation and their true bearing upon the problem.

The speaker called attention to the fact that writers of a teleological bias are continually advancing what they regard as proofs of intelligent design and benevolent provision in behalf of sentient beings, especially man. Until within quite a recent period all philosophy was strictly *anthropocentric*, and the lower grades of creatures capable of enjoyment and suffering were wholly ignored; but in later times a few of this school have expanded their scheme to embrace the animal world in general, rendering it *zoöcentric* instead of anthropocentric, although the existence of large orders of purely predatory creatures had proved a somewhat discouraging fact for their philosophy to assimilate.

Most of the examples that have been brought forward as establishing the operation of a designing intelligence and beneficent

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[1] "American Naturalist," Vol. XVI., (January, 1882,) pp. 66–67.

[2] This paper will form part of Chapter VIII of the author's work "Dynamic Sociology," in press.

intent in the universe—optimistic facts, so called—can be classed under two general heads: They are either, 1, cases of natural or genetic adaptation; or, 2, they are mere coincidences.

Still a third class was, however, named in which the advantage is more apparent than real and becomes greatly reduced or disappears altogether on closer examination.

Under the first of these groups the following instances were enumerated:

1. A modern scientific writer had stated that in the case of the maternal instinct it was a mere accident that the course of action which the instinct prompts should be one that was conducive to the welfare of the offspring.

Against this view it was urged that this apparently fortuitous adaptation was clearly a genetic one and had been developed under the operation of the selective laws now generally recognized in biology.

2. The alleged excess of male over female births, supposed to be brought about for the purpose of supplying the loss of males incident to war and their more exposed mode of life, was questioned as a fact; the loss of males by violence being, probably, nearly compensated for by the greater delicacy of maternal functions; yet, if the supposed excess were proved, it might do no more than show that it was an advantage that it be so, which, on adaptation principles, would amount to accounting for the fact.

3. That the specific gravity of aquatic animals should almost exactly equal that of their medium was held to be a clear case of natural adaptation.

4. The allied fact that the bones of birds are hollow and communicate with the outer air was explained in the same manner.

5. The existence of the coal measures was cited as a favorite theme of optimists, and it was shown that it partook of the character partly of the first and partly of the second group. If it be true, as generally believed, that the process of their deposition had the effect to purify the atmosphere of its alleged excess of carbonic acid gas, then the fact must have constituted one of the conditions

to the development of higher forms of life, including human life, and as such it performs the office of an *efficient* and not a *final* cause. Since the close of the sixteenth century, when coal began to come into general use as fuel, it may have also produced a new effect upon the development of the race by greatly enhancing their comfort and consequent efficiency for action. In so far the correlation between the existence of the coal measures and the advancement of man has a causal relation and constitutes a case of adaptation; in any other sense it must be regarded as a pure coincidence.

6. Very similar to this case is that of the late appearance, geologically speaking, of the most important economic families of plants, and particularly the *Rosaceæ* and *Gramineæ*. These plants were shown to have been, equally with the coal measures, a condition to the existence of the higher forms of animal life which have been genetically adapted to them. Considered from any other point of view the co-existence is purely accidental.

Under the second group, or that of pure coincidences, the following cases were noted:

1. The alleged advantage to man of the spheroidal form of the earth in preventing irregularities in its motions, due to mountains and other inequalities of its surface, which the equatorial *meniscus* neutralizes. This, Kant, who first suggested it, proposed to explain on teleological principles, and he rebukes the attempt to explain it as due to the equilibrium necessarily produced by the formerly fluid mass of the rotating planet. But as the mechanical explanation is complete without the teleological one, and will apply to any case, even where it might be a disadvantage, the latter is at least unnecessary.

2. The fact that there is no relation of dependence between the dispersive and refractive powers of different substances, and which alone renders the construction of the achromatic lens possible. This was mentioned as a most fortunate case under the present head; but it was questioned whether this were not rather to have been

pected than the contrary, and whether admiration be really the proper attitude to maintain towards it.

3. It had been remarked by Brinkley "that if the velocity of light had been much less than it is astronomy would have been all but an impossible science." If it had been greater than it is, however, astronomical observation would have been in the same degree facilitated; and there was the same antecedent probability that it would be greater as less.

4. As a final case under this head was noted the circumstance that if the manufacture of alcohol had been so simple a process that the lowest races could have at all times obtained an unlimited amount of it, this would probably have effectually prevented the social development of the race, if it did not entirely extinguish it. It is a fortunate coincidence, therefore, that its production is only possible by races that have advanced far enough intellectually to be capable of foreseeing to some extent its evil effects and of exercising a certain control over their appetite for it.

Passing to the third group, or those instances in which the advantage is more apparent than real, only a single case was adduced as a type of the class.

This was the fact, so strenuously insisted upon by certain physicists, and notably Count Rumford, as a wise provision of nature in the interest of man, that water attains its greatest density at about 39½° Fahrenheit, instead of at the actual freezing point. This view was based upon the supposition that if it were otherwise all bodies of water, even the ocean, would be frozen solid as often as the temperature fell to 32°. The fallacy of this reasoning has long been exposed, and it has been shown: first, that this property does not apply to the salt water of the ocean, which is about in the state from which the worst results of the theory would occur; second, that these results do not occur there, and would not in any liquid, but rather the opposite ones, viz., that bodies of water would never freeze over in temperate climates at all, since the superincumbent

mass of the water would prevent the cold from penetrating to the bottom, where alone congelation could take place if ice were heavier instead of lighter than water; and, third, that instead of water having been singled out as the only substance to be endowed with this property, it is now found that many others possess it, such as glass, bismuth, antimony, and even iron; so that independently of design the chances that water should possess it are about the same as that it should not, while the property itself is really of very doubtful advantage.

Upon an enumeration, therefore, of such cases only as seem to favor the anthropocentric theory it was maintained that the claim was a weak one. Unless the theory of adaptation is wholly rejected, the greater part of the illustrations fall under that head. A large share of the remainder are such as would be as likely to occur in the manner that they do, as otherwise, under the operation of the mathematical law of probabilities. The number of coincidences that can be noted is not greater than ought to be expected, or than are met with in other departments of human experience, while a few cases turn out, when fully understood, to be of doubtful advantage.

The speaker next proceeded to enumerate cases of the opposite general class, or such as seemed opposed to the doctrine of a special beneficent agency in the interest of man. This, he stated, was a much easier task than the preceding, which is itself a strong presumption against the optimistic view.

The illustrations adduced were grouped under three general heads, viz., 1, such as exhibit a condition generally unfavorable to life on the globe, either of men, animals, or plants—*anti-biocentric facts*;—2, such as negative, in one form or another, the assumption that the human race has been the special object of benevolent design—*anti-anthropocentric facts*;—and, 3, those in consequence of which social progress tends to defeat itself—*anti-sociocentric facts*.

A bare enumeration of the many cases cited is all that can be given in this abstract.

Under the first of those groups the following facts were set down:

1. That the longitudinal cohesion of the outer bark of many trees restricts their natural growth by binding the trunk too tightly and compressing the cells of the cambium layer. So obvious is this that horticulturists successfully relieve them by artificially slitting the bark.

2. That many plants bloom during a period of mild weather in autumn or winter, when there is no possibility that their fruit can reach maturity.

3. That the sting of many insects is so strongly barbed that it cannot be withdrawn from the body stung, but instead is extracted from that of the insect along with the viscera to which it is attached, resulting in the death of the latter. As only females are provided with stings the destruction of so many of that sex must be a disadvantage to the species.

4. That female opossums having only thirteen teats have been known to give birth to fifteen or sixteen young, and, as the continued life of each embryo depends upon its permanent attachment to a teat, the excess over the number of the latter must necessarily perish.

5. That moths, beetles, ephemeræ, and other insects possess a suicidal propensity to fly into a flame.

6. That birds and animals on newly discovered islands have no innate fear of man, and allow themselves to be readily caught, so that they are soon exterminated.

7. That animals attacked with rabies immediately acquire a disposition to bite others, whereby the deadly malady is multiplied.

8. That many imperfectly integrated annelids labor under a great disadvantage from being obliged to support a multitude of similar organs in different somites.

While none of the above facts are capable of a teleological, or optimistic explanation, it was shown in each case that from the point of view of evolution they may all be readily accounted for.

Under the second, or anthropocentric group proper, the following facts were co-ordinated:

Three cases, under the general head of "rudimentary organs," as they are called, which, while they perform no known functions, are at the same time the seats of dangerous diseases, viz.:

1. The tonsils, as the seat of tonsilitis.

2. The thyroid gland, the seat of the disease called goître, or bronchocele.

3. The vermiform appendage of the intestines, in which two dangerous forms of disease are located.

Each of these has been traced back to a form in the lower animals, in which it was an active organ, which not only accounts for the existing vestige on true scientific grounds, but at the same time argues the descent of man from them. Yet this fails to relieve the optimist from the onus of proving a teleological advantage from them as they now exist.

4. Allied to these cases, but of less general renown, is that of the exposed condition of the lower extremity of the spinal cord, which, under certain circumstances, becomes the seat of a fatal malady known as rachidian meningitis. This condition, which is peculiar to man, is explained morphologically as a result of the assumption by man of the erect posture, in separating the sacral vertebræ and exposing the spinal cord.

The remaining cases cited under this head were taken from widely different fields:

5. That the ability to predict the weather is at once the most practically important and the most limited of scientific achievements.

6. That, as Laplace has shown, the elements of the solar system, from the human point of view, fall far short of the optimum.

7. That if, as many astronomers suppose, the moons of the larger planets are inhabited and derive their light and heat chiefly from their primaries, it is an ill-devised arrangement that in all cases they should always present one and the same side to them, leaving the other hemisphere in perpetual darkness.

8. That it would be much better for man if there could be about sixteen hours day to eight of night, corresponding to the normal requirements of activity and rest, and saving an average of four waking hours in darkness, with the accompanying cost of artificial illumination.

9. The misfortune was dwelt upon that all races should have been condemned to the use of either the quinary, decimal, or vigesimal system of notation, when either nine, twelve, or sixteen, but especially eight, would have constituted a basis so much superior in point of practical value. Genetically, it is easily explained as the result of man's possession of twenty digits.

10. That the human body should possess a specific gravity a trifle greater than that of water, coupled with the fact that man is not endowed with a natural instinct to swim; and this on a planet of whose superficial area two and four-fifths times as much is water as land, and which he is obliged to traverse in all directions. His supposed descent from purely terrestrial, or even partially arboreal anthropoid apes, would be a satisfactory genetic explanation of both these circumstances; but its admission would be no relief to the optimist from explaining them teleologically.

11. The brevity of human life was cited as an important barrier to intellectual progress. So large a portion of every one's lifetime is required to prepare for any useful work that little time is left for its accomplishment, and many are deterred from undertaking anything of real value. This, it was maintained, might as well have been otherwise, as there is nothing necessarily impossible in the limit of human life being two hundred years any more than in its being one hundred.

12. Living beings are so constituted that they multiply many times, often many hundred times, faster than their conditions would permit if the excess were not constantly kept down by the friction of the environment manifesting itself in a variety of ways. In the case of men, who form no exception to this law, disease, accident, violence, war, pestilence, and famine are among the

scourges that perform this office, the true cosmical nature of which is masked by our familiarity with the phenomena. The amount of suffering that would be saved if, instead of this method, that of diminished fertility or the destruction of unborn germs of life were adopted, is incalculable.

To these cases were added the following wholly disconnected but none the less apposite facts:

13. That the worst of all living enemies of mankind are too minute to be discovered by the highest-powered microscopes—the germs of disease.

14. That in temperate latitudes, where the bulk of the world's population occurs, northerly winds predominate in winter and southerly in summer, thus exaggerating the extremes of heat and cold.

15. That in mountainous regions the rainfall is chiefly on the tops of the mountains where it is not needed, leaving the otherwise fertile valleys and plains arid and parched.

16. That the most useful as well as the most beautiful objects in nature are usually the most rare.

17. That, whereas pleasures are usually moderate and brief, pains are often intense and protracted.

Under the last of the three general classes of anti-optimistic facts specified above, viz., the anti-sociocentric, or anti-progressive group, it was shown:

1. That social progress is rhythmical, and that its alternate flows and ebbs occasion incalculable waste, from the circumstance that only a part of what is gained by the flood-tide is retained after the ebb-tide is over.

2. That the study of phenomena has always had to be commenced from the top, and that the superficial view must be taken before the fundamental view can be gained; so that the work of intellectual progress has consisted in the removal, not merely of ignorance. but of error.

3. That moral and social science, the most practically important

branches of knowledge, labor under difficulties from which all other sciences are exempt, since every attempt to analyze the phenomena of human action and social life into their simpler elements—a process essential to the study of any science—conflicts with received opinions and shocks a morbid sense which claims a preternatural character for the human race.

4. That the labor performed in the interest of social progress is unremunerative, and must usually be performed in the face of strenuous opposition; which is alone sufficient to deter most men, however capable, from undertaking it.

5. That true merit is generally content to remain in obscurity, while the volatile elements of society thrust themselves into undue prominence and exert a greatly disproportionate influence.

6. That the mass of mankind wholly misconceive their own interests, and are generally found siding with the party that seeks to despoil them of their most valuable rights and liberties.

7. That the past tendency of the human intellect has been to ignore realities and waste its energies on empty speculations about transcendental questions.

8. That, while men have always had the most need, they have, at the same time, manifested the least disposition to exercise their intellectual faculties.

9. That in the present state of scientific progress the discovery of truth is rapidly distancing popular intelligence, so that it is impossible to assimilate the knowledge brought forth.

And finally:

10. That each and all of the many errors which the increasing intelligence of the world has successively swept away, have been defended to the last by at least a few of the most honored minds of the age, and have at last been compelled tardily to succumb to a sort of popular verdict, or to the combined force of the lesser lights and younger heads, reluctantly declining to follow longer those to whom they had been accustomed to look to for counsel and intellectual guidance.

In conclusion the speaker remarked that there were some to whom an apology might be due for so protracted an enumeration of the pro's and con's of optimism—a philosophy which may be supposed to have long been obsolete. To such, however, he could only express his regret that the mass of mankind have by no means reached their advanced position. While optimism, as a philosophic tenet, defined by the scholars of a century ago, has, it must be admitted, ceased to engross the attention of thinking minds, the qualified form of it which constitutes the anthropocentric theory, and toward which the foregoing considerations have been principally directed, still forms the very warp of the current philosophy outside of the domain of science, and to a great extent within that domain. It is the essence of all teleological conceptions, and so generally pervades the prevalent views of life and action, as to distort completely the popular conception of the relations between man and the universe. The great mass of men still believe in a conscious intelligence, either without or within the universe, which is perpetually adjusting means to ends in nature. The majority regard that intelligence as in a manner benign and sympathetic, and while shutting their eyes to such facts as have been here set forth, are ever on the alert to gather evidence, however slender, in support of providential interference and intelligent design.

Mr. S. D. Hinman then read a paper entitled THE RABBIT AND THE SPRING.—A DAKOTAN TALE.

Upon this paper Prof. Mason remarked that nearly the same story occurs in "Uncle Remus." He said it was possible that the negroes of the South might have learned it from the Southern Indians. He had formerly reasoned that the selection by the negroes of the rabbit as the hero of so many of their stories was because they thought that timid animal best typified their own helpless condition, from which a belief widely prevailed that they were yet to emerge victorious over all the influences that tended to hold them down.

Mr. Gilbert inquired whether the story was regarded as a myth, or whether it belonged to the proper folk-lore of the tribe.

Mr. Hinman thought that it was not believed in as a fact.

FORTY-NINTH REGULAR MEETING, January 3, 1882.

Dr. Robert Fletcher read a paper entitled PAUL BROCA; HIS LIFE AND WORK IN ANTHROPOLOGY.[1]

Dr. Antisell inquired whether the report was true that Paul Broca died of internal aneurism.

Dr. Fletcher replied that this was not developed by the autopsy and was a mere supposition.

Prof. Mason spoke of a letter he had once received from Broca, in which he advised American anthropologists to confine their investigations to their own country as the most promising field of research.

Dr. Antisell remarked that Broca was the first to observe the perforated skulls.

Dr. Fletcher said that he had treated this subject specially in a paper read at a previous meeting, which accounted for his touching so lightly upon it in the present one.

Prof. Mason asked whether it could be considered as the established opinion that the faculty of speech is located in the third frontal convolution of the brain. He said that he had heard both Dr. Otis and Dr. Woodward speak very skeptically about it, and cite a case in which this lobe was carried away entirely, and the man talked more than before.

Dr. Fletcher replied that there was some conflicting evidence on the subject, but that the doctrine had recently gained ground. He

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[1] "Paul Broca and the French School of Anthropology;" in "The Saturday Lectures," delivered in the Lecture Room of the U. S. National Museum under the auspices of the Anthropological and Biological Societies of Washington, in March and April, 1882; Boston, D. Lothrop & Co., 1882; Washington, Judd & Detweiler, 1882, pp. 113–142; also separate, as Saturday Lecture No. 6.

said that the views of Dr. Otis and Dr. Woodward which had been given must have been expressed some time ago, and he was quite sure they had been greatly modified since. He thought Dr. Otis believed in the doctrine at the time of his death, and that Dr. Woodward now accepts it with limitations.

ANNUAL ADDRESS OF THE PRESIDENT,

J. W. Powell.

Delivered February 7, 1882.

OUTLINES OF SOCIOLOGY.[1]

By organized association men live together in bodies politic. That men may live in peace, render one another assistance, and act together as units for mutual protection, is the purpose subserved by organized association. In order that men may associate, their conduct must be regulated. For the regulation of conduct there must be organization, and the plan upon which a body politic is organized depends upon the nature of the regulation for which it is used—organ is adapted to function.

The organization of the body politic constitutes the State.

Again, there must be—

First, some method of determining the particulars of conduct that require regulation and the quality and quantity of regulation required.

Second, there must be means of enforcing regulation.

Third, there must be means of determining whether conduct conforms to rule.

The machinery established by a society for accomplishing these purposes constitutes Government.

Yet again, there are the rules which the body politic determines to be necessary for peace, mutual assistance, protection, and the common welfare, and these constitute the Law.

The science of sociology, from the nature of the functions of social organization, may be fundamentally divided into three sub-

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[1] "The Saturday Lectures," &c., pp. 60–82; also, separate as "Saturday Lecture" No. 4.

jects: the constitution of the state, the form of the government, and the regulation embodied in the law—the *state*, the *government*, the *law*.

THE STATE.

A state is a body politic—an organized group of men with an established government and a body of determined law. In the organization of societies units of different orders are discovered. A society of the highest or first order is made up of a number of societies or groups of a second order, and these may again be made up of a number of groups of a third or fourth order. The term *state* as here used embraces the entire body of men included in the largest unit (and consequently all the men of each subordinate unit) when it refers to the body politic as a group of men, and when it refers to the organization it includes the constituent plan of the largest and its included units. It should be noticed that this use of the term state is not consistent with a common practice in this country, but we may illustrate by reference thereto. The term *state* would thus be synonymous with the United States, including its several units of states, counties, townships, cities, wards, and all other subordinate divisions. The term state, then, is used to designate an organized body of people of the highest order, embracing all its subsidiary organizations.

SOCIOLOGIC CLASSES.

In the foregoing characterization of the state it has been considered as a body politic organized for civil government, that is, for the regulation of the conduct of the individuals of the state as they are related to one another. But the conduct of the members of the state, or of the entire body politic, may have relations to other bodies politic; so that conduct must be regulated in its internal relations and in its external relations.

Now, the relations of state to state may be regulated by common agreement, and they are thus regulated to a large extent. But

this regulation is imperfect and weak from the fact that no common government is organized to which all the states are alike obedient. The lack of such a common government for states leads to the settlement of disputes by war. Each state prepares itself to enforce its wishes or defend its rights by resort to arms. It seems probable that in the earliest stages of society all able-bodied men take part in its military affairs. But very early a differentiation is discovered by which a part only of the men belong to the army; and thus we have the *military* class as distinguished from the *civil* class.

In all governments which have hitherto existed, human conduct has been regulated in its relations to supernatural beings. It has always been believed that the welfare of mankind depends largely, or even primarily, upon the will of the gods, or of one god—the Supreme Ruler of the Universe.

The relation of man to his god gives rise to religion. The conduct involved is religious conduct; and hence religion comes to be an important factor in determining the constitution of the state, the nature of the government, and the character of the law.

Thus in the constitution of the state we find three classes of people more or less distinctly differentiated: the civil, the military, and the priestly. As these classes appear in the constitution of the state they also affect in varying degree the form of the government, and the relations arising therefrom are regulated by law.

SOCIAL RANKS.

In many stages of society grades, or ranks, of people are discovered, based upon heredity, possession of land, wealth, and other circumstances giving rise to aristocracies—common people and slaves, patricians and plebeians.

CORPORATIONS.

In many states two grand classes of organizations are found. The first class is directly related to government and embraces the organi-

zations mentioned above as grouped in different orders. The second class is indirectly related to government. These organizations serve a variety of purposes. Men are organized into societies for religious, charitable, educational, industrial, and other ends, and such societies will here be called *corporations*. These organizations of the minor class, unlike those of the major class, do not constitute a part of the government, but they form a part of the state and must necessarily be considered in the plan of the state. While not a part of the government in any important way they are connected therewith. The regulation of conduct involved in the successful working of such corporations may be immediately determined by the bodies of men severally involved, and expressed in charters, constitutions, by-laws, and rules of order. But over all these is the law of the government, with which the rules or laws of the several minor organizations must conform, and for the ultimate enforcement of which government is to a large extent responsible. Thus we have the major and minor organizations of the state, the major and minor laws of the state, and the government of the state directly enforcing the major laws and indirectly enforcing the minor laws.

The science called Sociology in its three great divisions—the state, the government, and the law—deals with all organizations of the people for whatsoever purpose they may be formed.

A part of the regulation of a state belongs to the major, another part to the minor, organizations of the state, but the functions of the two classes of regulation are not clearly and permanently differentiated. A particular system of regulation may be relegated now to the government and now to a society of the minor class, or the system of regulation may be divided between them. For example, the government may entirely control a system of education, or the system of education may be entirely controlled by minor societies; or, again, a part of the educational system may belong to the government and a part to minor societies. The boundary lines between major and minor regulation are ever shifting.

A STATE IS A PLEXUS OF ORGANIZATIONS.

In the foregoing statement it is seen that the grand unit of social organization, the state, is itself composed of many minor organizations, forming units in a descending series, so that the state has a compound structure. It also has a complex structure. Before defining this complexity an illustration from biology may be in place.

An animal is composed of many organs performing different functions,—the organ of thought, the organs of breathing, the organs of digestion, the organs of circulation, the organs of locomotion, and so forth. Running through all these organs and forming a plexus with them, are the systems of tissues—the nervous, vascular, and muscular systems—the whole forming a complicated system of organs and tissues, rendering the organism excessively complex in physical constitution.

In the examination of the constitution of any particular state it will usually be that one system of organization permeates and pervades other systems in such a manner that the individual state is excessively complex. Through the series of units into which the state is organized for the purposes of government, both classes and ranks are interwoven, and through the government units—the classes and the ranks—corporations are interwoven.

In the Muskoki Confederacy there are forty-nine tribes, each one having a government of its own. But these forty-nine tribes are organized in such a manner that a common government is provided for the whole. Now, the confederacy is the grand unit, the tribes are units of a second order. But the clans of one tribe are also the clans of another, so that each clan is distributed through many tribes, and each clan has a government of its own, subsidiary to the government of the tribe, and again subsidiary to the government of the confederacy. The organization for a clan is woven through the organization for a tribe in such a manner as to make the constitution of the state complex.

In those states where the organizations which we have here

called corporations are highly developed, the corporations themselves render the constitution of the state complex. Church organizations do not conform to state lines, but extend their operations and their control over their own members regardless of political divisions.

All states that have been studied have been thus found both compound and complex. Such are the essential characteristics of the social organization of mankind into states.

THE GOVERNMENT.

The differentiation from the state of an organized system of regulation gives rise to government. If a condition of society could exist in which each member in the state should take an equal and like part with all the others in the regulation of conduct, the state would be without a government in the sense in which that term is here used; but in the bodies politic which are known certain individuals are selected by one or other process to perform special functions in the regulation of the conduct of the people composing the state. The government is the sociologic organ differentiated from the state for the regulation of conduct.

The functions to be performed by a government are of three classes—legislative, executive, and judicial. For if conduct is to be regulated it is necessary—

First, to determine in what particulars, and to establish the rules. This gives the law-making power, which will here be denominated the *legislative* department.

Second, to provide machinery for the enforcement of the law. This is here denominated the *executive* department.

Third, to interpret the law. In society the particulars of conduct and the relations of conduct are vastly multifarious, approaching infinity. The formulated rules of conduct—the law—can never so keep pace with conduct itself that every specific act of social life shall have its corresponding formulated rule. It is therefore necessary that the general rules embraced in the law be interpreted and

applied to the specific act. This is usually done by the individual, who is supposed, and whose duty it is, to know the laws of the state; but the individual may yet have imperfect knowledge. Still, as a member of the body politic, his conduct has its effect upon others who themselves may have imperfect knowledge of the law and its application to specific acts. This imperfection of knowledge necessitates an interpretation of the law. Again, bias of interest, bias of prejudice, and bias of passion, all have their effect in modifying individual opinion relating to the law. Under these circumstances it is found necessary for the state to devise, as a part of its government, some organ for the interpretation of the law in its application to specific acts. This gives rise to the *judicial* department of government.

These three great functions have never been clearly differentiated in the organization of a government; but the distinctions have usually been perceived and a partial differentiation of organs is ever found.

In the constitution of the state, it has been seen, three grand classes arise—the *civil*, the *military*, and the *religious*. Wherever in the state such classes appear, the form of government is adapted to the regulation which the constitution of the state demands, and in this manner the functions of government may be classified as civil, military, and religious—the military government inhering in the army, the religious government in the priesthood: and armies and priesthoods are constituent parts of such governments.

Usually in all stages of society, military government is entirely subordinate to civil government, but there are times in the middle stages of society when the military government assumes inordinate proportions, so that the civil government becomes subsidiary thereto; but such military governments performing civil functions are ephemeral.

Again, in the constitution of the state, religious organizations invariably constitute an important factor. In the lowest tribes a priesthood is a part of the government. In certain stages of society

a priesthood sometimes acquires inordinate powers, and ecclesiastical, or religious, governments are organized; but such governments arise only occasionally and are ephemeral.

In the constitution of the state two classes of organization are found—those relating directly to the government, called the major organizations, and those relating indirectly to the government, called the minor organizations, or corporations; and each organization develops from its own body of members a government of its own, through which, in part, it is related to the government of the state and to other organizations of the minor class. These minor organizations are also directly related to the government of the state and to one another through the individuals of which they are composed.

Government is the specialized organ for the regulation of the conduct of the individuals of the state, and is functionally divided into the legislative, executive, and judicial departments, with a still further functional division running through these, giving civil, military, and religious government. To the government of the state, in its several units and classes, the government of corporations is subsidiary and obedient.

THE LAW.

The law is composed of the rules of conduct which the government endeavors to enforce. These rules of conduct control the individuals of the state in their relations to one another. Conduct, in its relation to the individuals involved, is either directly or indirectly personal. Conduct may be directly personal in its relations to two or more individuals, or it may be indirectly personal in that it affects the relations of the individuals through the medium of property. The first gives rise to what I shall denominate *personal* law, the second to *property* law.

Again, in the organization of the body politic, minor bodies have been described, and designated as *corporations*, including in the term all bodies politic of the minor class, *i. e.*, all private cor-

porations as distinct from municipal or government corporations. The relations of individuals to one another, as members of a corporation, are controlled by the corporations themselves in their organized capacities, but these regulations must conform to the law of the state, and are ultimately relegated for their enforcement to the government. But the control of corporations in their relations to one another, in their relations to the government, and in their relations to the individuals of the state, gives rise to a body of *corporation* law.

Again, since government is differentiated as the organ of regulation, the organ itself must be controlled—the conduct of the government must be regulated. This gives rise to what I shall denominate *government* law.

It has been seen that the conduct of a state, and of the individuals of a state, has relation to other states. The rules for the regulation of this conduct gives rise to *international* law.

As no common government exists between states to enforce international law, armies are organized, and for the regulation of their conduct *military* law is developed.

The conduct pertaining to the relation which exists between men and deity gives rise to the organization of ecclesiastical bodies. For the government of these bodies, and for the enforcement of the rules of conduct which religion imposes, *religious* law appears.

The law, then, the body of rules which the state endeavors directly or indirectly to enforce, may be properly classed as follows:

1. Personal law.
2. Property law.
3. Corporation law.
4. Government law.
5. International law.
6. Military law.
7. Religious law.

In addition to this classification of law on the basis of the particulars of conduct to be controlled, another fundamental

classification is found running through and interwoven with each of the others. This classification depends upon the method by which regulation is accomplished. General rules of conduct are established, and these general rules are applied to specific acts. Thus duties and rights, or rights active and passive, are determined. Usually, to these rules determining rights, the individuals of the state conform their conduct; but to an important extent they do not. To the extent that conduct is conformatory to the law, right is done; to the extent that conduct is not in conformity with the law, wrong is done. Now, government does not attempt to control conduct by directly enforcing right-doing, but indirectly, by punishing wrong-doing, and this gives rise to a body of laws relating to wrongs, which may be designated as *criminal* law.

Crimes may be committed against personal law, property law, corporation law, government law, international law, military law, and religious law; so that the classification of law relating to rights and duties furnishes the proper basis for the classification of law relating to wrongs, *i. e.*, crimes.

COURSE OF EVOLUTION OF THE STATE.

In considering the particulars of conduct that states have attempted to regulate we find they can be classified on still another basis than that presented in considering the subject of law. Conduct may relate to the perpetuation of the species, or it may relate to the welfare of the individual. Though this classification serves no important purpose in the study of the subject of law, yet it is necessary in considering the constitution of the state and the form of the government.

In the earlier and lower stages of society, conduct relating to the perpetuation of the species is held to be of primary importance, while conduct relating to the welfare of individuals is held to be of secondary importance, in such a manner that the organization of the state is based primarily on the former and secondarily on the latter.

In the perpetuation of the species the functions of reproduction are dependent upon the biologic organization of mankind, dividing the human race into two classes—*male* and *female*—and the very earliest states yet discovered have their plans of organization based on sex, and composed of classified bodies of kindred.

This may be stated in another way. In the earliest forms of society conduct involving the relations of the sexes and the relations of kindred arising therefrom was first brought under regulation. The primary and principal source of disagreement among primitive men at the inception of organized society grew out of their desires for the possession of women. Men first came into conflict with one another on account of women, and to live together in peace it became necessary to organize government and enact law regulating marriage and kinship relations arising therefrom. The government and the law relate primarily to kinship, regulating the relation of the sexes, and the relation of the several members of bodies of kindred; that is, the state is organized on kinship. Governmental functions are performed by men whose positions in the government are determined by kinship, and rules relating to kinship and the reproduction of the species constitute the larger body of the law. The law regulates marriage and the rights and duties of the several members of a body of kindred to one another. Individuals are held responsible only to their kindred, and certain groups of kindred are held responsible to other groups of kindred. When other conduct, such as the distribution of game taken from the forest, or fish from the sea, is regulated, the rules or laws pertaining thereto involve considerations of kinship, and this is extended so far that a large body of rights to property are kinship rights. In this manner all the earlier forms of the state of which we have knowledge are based on kinship. This gives us kinship society and tribal government.

In the highest forms of social organization discovered in the nations of civilization the regulation of conduct embodied in the government and the law, relates chiefly and primarily to the welfare

of the individual, and secondarily to the perpetuation of the species; and of the conduct relating to the welfare of the individual that which relates to property has an overwhelming predominance.

In the earliest stages of society small wealth is accumulated, and industries for the production of property and wealth are comparatively undeveloped. In the higher stages of society greatly accumulated wealth is found, and industries are differentiated and industrial organizations multiplied beyond all others. As, therefore, the organs of government must be adapted to its functions, the plan of government in such a state must be based upon property. Thus property, society, and national government are constituted.

In kinship states the fundamental classification of the people for the purposes of government is by kindred; in property states the fundamental classification of the people for purposes of government is by territory. Between these stages—the lowest and the highest—many intermediate forms are found. No hard and fast lines can be drawn. A clear distinction can be made only between the lowest and the highest. Survivals of kinship society exist in all governments where position, *i. e.*, office, in the government is hereditary, while property society with the government of the highest civilization is reached only by republics.

The history of the constitution of the state is the history of the evolution of kinship society into property society.

There is yet another way by which this evolution may be characterized, namely, by the progressing differentiation of the organs of the state, and by the progressing integration of states. The differentiation of organs in the state is represented in three ways:

First, by the multiplication of organs of government.

Second, by the multiplication of the orders of units and the specialization of the subordinate units so that subordinate organizations perform special functions. Thus cities may be divided into wards, counties into towns.

Third, by the multiplication of corporations for specific purposes. Such organizations in the lowest stages of society appear only in a

crude form, but as society advances they are perfected and greatly multiplied, until in modern civilized society a state becomes a vast plexus of corporations.

In the earlier stages of society each state is small, being composed only of a body of kindred by consanguinity and affinity, actual or artificial. As each state is small many states are found. In order that unification of states may progress organization by kinship must give way, and gradually it does give way, to be replaced by organization on a property basis. Organization on a property basis appears in many ways, but chiefly in two. First, captives in war and other persons are made slaves, and themselves become property; and, second, a particular form of property—land—gradually comes to be of prime importance, and is at last taken as the basis of the primary classification of the state, which is territorial.

By various processes of alliance, by conquest, by development of feudalities, and by slavery, states are integrated, and by the development of the organs of government and private corporations, the classes of the state are differentiated, and with this the plan of the state is changed from a kinship to a property basis.

COURSE OF EVOLUTION OF GOVERNMENT.

The earliest form of government of which we have knowledge consists of an assembly composed of men, from which are excluded all deemed too young or too old to exhibit due wisdom. This assembly is the law-making power, *i. e.*, the legislature, and the law applying power, *i. e.*, the court. It is, in fact, the body of able men meeting to confer and decide upon conduct, and is essentially legislature and judiciary undifferentiated. This assembly has a presiding officer who obtains the position by common consent or formal choice, and who sometimes acts as an executive officer in carrying out the decisions of the assembly. But this executive power, though it may sometimes, does not invariably inhere in the presiding officer.

Sometimes, and perhaps usually, the executive power is delegated to a committee of the assembly. The committee may be appointed temporarily to carry out a specific determination of the assembly, or it may be a standing committee to carry out a class of determinations. The form of government thus described probably exists at present in some of the tribes of Australia and elsewhere, as such accounts are given by travelers and students of ethnology; but these accounts are incomplete, and have been made by persons not thoroughly trained in this branch of anthropologic research, so that altogether the existence of such a government is at present uncertain. It is also probable that this form of government has existed in past times among tribes who have now advanced beyond it. The line of argument on which this is based cannot here be presented, and it is but fair to say that positive conclusions have not been reached.

A somewhat higher form of government has been discovered in America and elsewhere, which may be more thoroughly described. In this the assembly of the people is more definitely organized. The presiding officer is formally selected, and his tenure of office is for life, unless otherwise formally determined by the assembly for cause. In addition to this, a chief or system of chiefs is found whose duties are executive. The chief is also a member of the assembly, but is not a chief by virtue of such membership but by choice of the people. The chieftaincy is never hereditary.

In the most highly developed governments the three great classifications of governmental functions are highly, though not completely, differentiated, giving rise to legislative, executive, and judicial departments, represented by the *assembly*, the *ruler*, and the *court*.

The assembly itself is elaborately organized and differentiated into two or more correlated divisions. Executive functions are highly differentiated and distributed among various classes of officers over whom the ruler presides. The judicial functions also are differentiated, and superior and subordinate courts are organized. Between the two forms thus described, many intermediate forms

are discovered, and the course of progress is wayward and various. In the earlier part of this course, judicial functions are to a greater or less extent assumed by the executive, and for a long time this division of the functions of the court between the two departments of government continues—being claimed, now by one, now by the other. At times, too, in the course of progress, legislative functions are assumed by the executive department, and a conflict is waged for supremacy. At last, by various processes, the court is organized.

Three of these processes must here be mentioned. As states increase in size the business of adjudication becomes so great that proper attention cannot be given to the multiplicity of cases arising. Under these circumstances committees of the assembly are appointed with judicial powers, at first extremely limited but gradually enlarged, until courts are developed. On the other hand, where judicial power has to a greater or less extent been assumed by the executive department, the rulers find themselves overwhelmed with business and appoint subordinates in the first instance to adjudicate specific cases, but gradually the powers of these subordinates are enlarged, until courts are thus established.

Again, ecclesiastical bodies claiming superior virtue and wisdom sometimes assume to adjudicate, but such adjudication is gradually relegated to specified officers of the body, and thus ecclesiastical courts are developed.

The courts originating from the assembly, from the ruler, and from the ecclesiastical body alike, may be more or less multifarious. When they spring up in the same state their jurisdiction is at first imperfectly defined. Each strives for supremacy, and thus jurisdiction overlaps jurisdiction. This conflict ultimately results in the organization of a system of courts integrated in a superior court and differentiated by the establishment of a variety of inferior courts with jurisdiction more carefully defined, the function of the inferior courts being controlled and restricted within proper bounds by appeal to the superior.

Thus, at last, the functions of the primitive assembly, originally legislative, executive, and judicial, are differentiated, and the legislature, the ruler, and the court are established.

THE COURSE OF EVOLUTION OF LAW.

In the development of the tribe into the nation, conduct develops from extreme simplicity to extreme complexity, and for the regulation of conduct the law must likewise develop.

PERSONAL LAW.

A large part of personal law belongs to family law. Perhaps the earliest and lowest form of the family is that in which brothers in a group marry their own sisters in a group: all the brothers are the husbands of all the sisters. The family is thus composed of husbands and wives, parents and children, grandparents and grandchildren, and brothers and sisters. Collateral lines of kinship are not established. There are no uncles and aunts, no male cousins and female cousins, and no nephews and neices. This is known as the Punaluan family, or system of kinship.

Another form, known as the Malayan family, or system of kinship, is found, involving a larger tribe and a higher organization. In this, a group of men, being brothers, marry a group of women, sisters to one another, but not sisters to the men whom they marry. For the regulation of this form of communal marriage a tribe is divided into classes. Often there are three classes, which are divided into male and female—making in all, six. Let these be represented by letters: A represents a male class, and A^1 a female class. The class A are brothers and the class A^1 are their sisters. B represents a class, and B^1 a class, brothers and sisters; and C and C^1 are like classes. Then the class A, being brothers to one another, may not marry their sisters A^1, but marry the class of women B^1 who are sisters to one another. The class B marry the class C^1, and the class C marry the class A^1. Now, in this family, descent is in the female line. The children then of A and B^1 will belong to the

class B and B^1, the children of B and C^1 will belong to the class C and C^1, and the children of C and A^1 will belong to the class A and A^1, and through these cycles the generations pass.

The kinship system is further developed in this family, and gives brothers and sisters, fathers and mothers, sons and daughters, grandfathers and grandmothers, and grandsons and daughters. It also gives aunts and uncles. The children call their father and father's brothers, all fathers, and their mother and mother's sisters, all mothers; but their father's sisters are aunts, and their mother's brothers are uncles. The children of their father's brothers they call brothers, the children of their mother's sisters they call sisters; but the children of their father's sisters they call cousins, and the children of their mother's brothers they call cousins.

This family is widely spread in Australia and elsewhere, and the kinship system is still more widely spread, as it exists among all the tribes of North and South America, in parts of Europe, Asia, and Africa, and in some of the islands of the sea.

The Punaluan system of kinship is known to exist, but the form of communal marriage is not known. The Malayan system of kinship and marriage is known. Its simplest and most common form only has been given.

The development of this into the polygamic and monogamic systems of marriage is accomplished in diverse ways among many tribes. The group of husbands and group of wives constituting one family comes to be very large and narrower restrictions are adopted—thus, sons of one mother will be married in a group to the daughters of another mother, and various other restrictive regulations will appear, but all involving a common principle, namely, that the husbands and wives have no choice. Selection is made by legal appointment.

Legal appointment develops into individual selection through three processes:

First. The parties interested, consulting their own wishes, elope; and marriage by elopement, though illegal at first, is made legal on

the day of jubilee. This procedure widely prevails among the North American Indians.

Second. It ofttimes happens that in the vicissitude of life certain groups, or families, of sisters increase in number, while the groups of brothers to whom they belong decrease in number, and *vice versa*. Under these circumstances a few men are entitled to many wives, and the law holds this to be justice. In such cases it may happen that a man who belongs to a large male group having rights of marriage in a small female group, will, with his friends, capture a bride from some larger group of women. This is always resisted, and conflict ensues. If the capturing party succeed, the law then holds that the warfare was the final arbitrament and the controversy ends; and if the capturing party fail, the contest must, in like manner, cease.

Third. Marriage by capture develops into a third form. A man being entitled to more than one woman is challenged by a man who, by the vicissitudes of life and death, is entitled to none, and the right to a woman is thus decided by wager of battle between the two men immediately interested. This duel is gradually regulated by law in such a manner that fatal results do not ensue, and the conflict ends controversy, and thereafter the disputants are, themselves, friends.

These three forms of marriage—by elopement, by capture, and by duel, are gradually regulated, and come to be recognized as legal, and so communal marriage is developed into polygamic and monogamic marriage; and thus by a long process the Malayan system of marriage and the Malayan system of kinship are developed into the monogamic family and kinship. But it usually happens that the system of kinship embodied in the terms of relationship, remains longer than the system of marriage, that is, the evolution of language does not keep pace with the evolution of customary law, so that we find many tribes having the Malayan system of kinship, yet not having the Malayan system of marriage,

but having polygamic marriage and marriage by legal appointment, and with these, marriage by elopement, by capture, and by duel.

In the family law of very early society descent is in the female line, the control of the children belongs to the mother and her consanguineal kindred, and the father and his kindred have no control over the family. The husband is but the guest of the wife and her friends.

During the process of development from communal marriage, and the system of kinship involved, to monogamic marriage and its system of kinship, a change from descent in the female to descent in the male line occurs, and with this change the control of the family is relegated to the husband and father, and rapidly this control becomes absolute, and the patriarchal family is established, in which the father has power of life and death over his wives and children and all their descendants; but gradually this power is regulated by law.

A method by which descent is changed from the female to the male line, that is, by which mother-right is changed to father-right, appears among the North American Indians. When the gentes of which a tribe is composed do not live in a compact village but are spread over a large area of country, so that each gens lives alone, separated by miles of distance from the others, the consanguineal relatives of the wives, who are the guardians and masters of the family, are not present and cannot exercise control. Under such circumstances authority is gradually assumed by the husbands, and the line of descent is ultimately changed. There may be other methods by which this change is made.

PROPERTY LAW.

Property law is naturally divided into two classes—property in *chattels* and property in *land*.

To a large extent in primitive society chattel property is communal—owned by classes or clans—but a few articles, such as clothing, ornaments, and some implements and utensils, are owned by in-

dividuals, yet no large accumulation of these things is permitted to the individual. Under these circumstances barter and sale are clogged because individuals cannot freely exchange—the consent of two bodies of persons being necessary therefor. As industries are differentiated, that is, in the beginning of the differentiation of labor, articles are exchanged by regulation—the price is always the legal price. Inheritance is by clan, not from parent to child.

In the progress of social organization communal chattels become personal property. Inheritance by clan gradually becomes inheritance by nearest of kin, and, finally, wills are invented, and inheritance by designation of the owner is developed. Then with the development of money, barter is changed into sale, and legally fixed price, by certain curious processes, is changed into competitive price.

In the most primitive society the land is held by the state and used only as a hunting ground, or as the source of vegetal food naturally grown thereon, while the streams and coasts are held as fisheries; but where rude cultivation begins small areas are redeemed, and usually cultivated land is held by tribe or clan. Thus, tenure to cultivated land is communal.

Communal ownership is gradually developed into ownership in severalty by a variety of processes interesting in themselves, but multifarious and complex, so that the subject may not here be treated at large.

With the change in the character of tenure to property from communal to individual ownership, there grows up a large body of law relating to contract.

[The consideration of the evolution of corporation law is omitted.]

GOVERNMENT LAW.

In lower tribes, government law consists of a few simple rules, regulating the manner of calling the assembly, the order of deliberation, and the method of announcing the decision, while the

chief or committee executes the law in obedience to a few equally simple rules. In higher nations, where the legislature, the ruler, and the court appear, government law is greatly elaborated. The legislature is organized by processes provided by law, and controlled by organic, or constitutional, law, and a body of parliamentary law is developed regulating its method of procedure. The executive department is governed by organic law, by law emanating from the legislature, and by a large body of rules originating within itself. The judicial department is also controlled by organic law, by directory laws emanating from the legislature, and by the rules of the court, involving a complex system of procedure.

From such simplicity to such complexity do we arrive by the processes of evolution.

CRIMINAL LAW.

Of crimes resulting from the regulation of the relations of the sexes, marriage within the proscribed group is held to be the most heinous in primitive society. It is never condoned, never compounded. Infidelity after marriage may be condoned or compounded.

Crimes relating to personal injuries include murder, maiming, and slander. Murder may be punished by the taking of life—not necessarily the life of the murderer, but one of his clan. But murder may be compounded, and primitive law fixes the value of individuals according to sex and rank. Murder may be atoned for by substitution, that is, the murderer may be expatriated, driven from his family, and thus become dead to his own people, and then he may be adopted by the injured family and made to replace the murdered person. Thus the wife of the murdered man may adopt the murderer for her husband, and, in this adoption he loses his own name and all relations of kinship, and accepts the name and kinship relations of the murdered man.

Maiming is punished by maiming—"an eye for an eye and a tooth for a tooth"—and maiming may be compounded, and the value of the several parts of the body is specified by law.

Slander is punished the same as the crime alleged in the slander, and slander may be pleaded as a justifying cause for murder and maiming; slander may also be compounded.

In primitive society by far the largest body of crimes is included under the practice of witchcraft, and this is terribly punished. Abnormal conditions of body, aberrations of mind, and infelicities of temper are all interpreted as evidences that the possessors thereof are uncanny people, and to a large extent deafness and blindness before old age from causes that cannot be readily understood, and all loathsome or strange diseases, are likely to be attributed to sorcery, so that the practice of witchcraft is everywhere believed in, and witches and wizards are multiplied. Witchcraft is punished by death, but after conviction in the court, appeal to supernatural decision is always permitted, and thus we have the origin of trial by ordeal.

Criminal law in the higher stages of society need not be characterized, but certain lines of evolution may be pointed out. The groups in which marriage is prohibited, giving rise to the crime of incest, change from artificial groups to groups constituted by degrees of consanguineal kinship, male and female. Thus classifications by artificial and analogic characteristics give place to classifications by essential and homologic characteristics. Gradually too, in the progress of society from the earliest to the latest stages, the motive of the murderer is considered, and accidental killing and maiming are differentiated from willful murder and other personal injuries, and in the higher stages of society, such willful injuries, being essential crimes, are not compounded nor atoned for by substitution.

In the crimes which come from the unlawful acquisition of property the punishment by multiple restitution found, in the lower states, is superseded by fines which go to the state and by imprisonment. In the lower stages of society property crimes are thefts; in the higher stages, property crimes are thefts and frauds.

In the lower stages of society a large body of the crime is witch-

craft, and this gradually disappears with the progress of culture. It should be noticed that in early society there is a very large body of artificial crimes—especially those relating to sorcery. Again, there is a large body of artificial crimes relating to personal injuries, from the fact that willful injury is not differentiated from accidental injury. In the course of evolution such artificial crimes are eliminated from the law. On the other hand, by reason of the ever increasing complexity of the relations of men, the classes of real crimes are multiplied.

There is yet another line of progress. In primitive society two principles are found to exist side by side as fundamental theories in the administration of the law.

The first is that justice must be done—that justice which the primitive law recognizes.

The second, that there must be end to controversy so that peace may prevail and society be not disorganized; and this must be accomplished though the former fail.

To secure end to controversy there is resort to two methods:

First, days or other periods of jubilee are appointed at which all crimes, except murder and incest, are forgiven. In the lowest societies it is a day of jubilee, coming once a year; in higher societies it is a year of jubilee, coming at longer periods. With progressing society this method of ending controversy is adopted in the case of crimes which are manifestly artificial in the state of culture to which the people have arrived, and by this means willful murder is at first differentiated from accidental killing.

Second, controversy is terminated and the punishment of artificial crime is avoided by the establishment of cities of refuge.

Now, cities of refuge come to be such in a curious manner. In the early history of mankind, cities are states and autonomous; one state does not punish the crimes committed in another; and men committing crimes flee from their own states to others, become incorporated therein by adoption, and thus secure immunity from punishment. When on the first organization of nations,

two or more city-states are consolidated and placed under one general government, certain cities often remain as places of refuge, but with an important restriction, namely, that the crimes belong to the classes which have been here described as artificial.

Thus days of jubilee and cities of refuge are important agencies in the evolution of criminal law.

The growth of law in its entire course is governed in many important respects by the theory of the origin of law and the source of its authority. This subject involves the discussion of the evolution of philosophy and cannot now be undertaken. It is the highest and most important subject with which the mind of man can grapple, as it involves the whole theory of human conduct—the ethics of mankind.

In the foregoing the organization of society for government, *i. e.*, for purposes of regulation, has been considered. This is the organization to secure peace. The organization of society by the differentiation of industries and their integration through commerce has been necessarily omitted.

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